

Figure 1

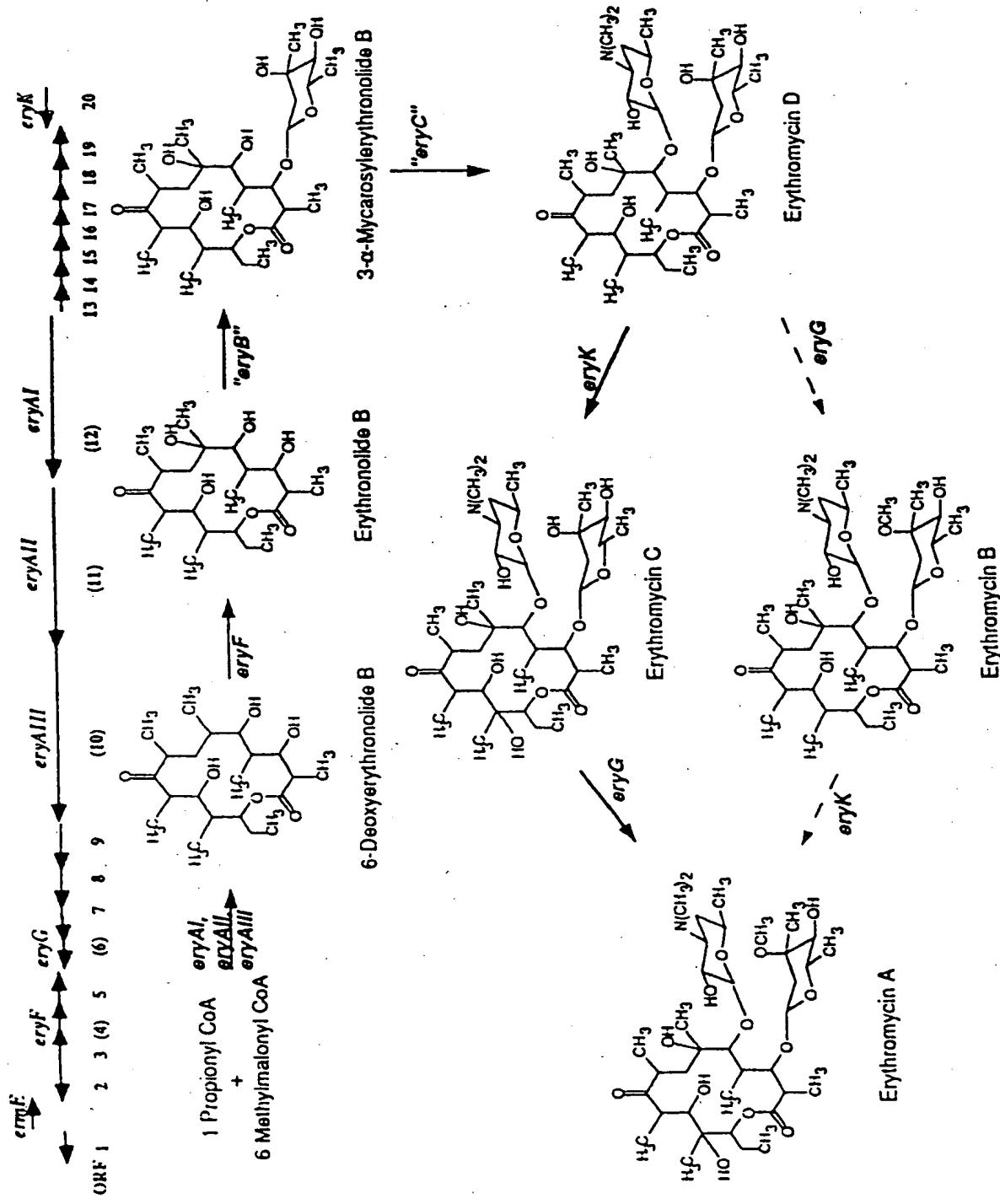


Figure 2

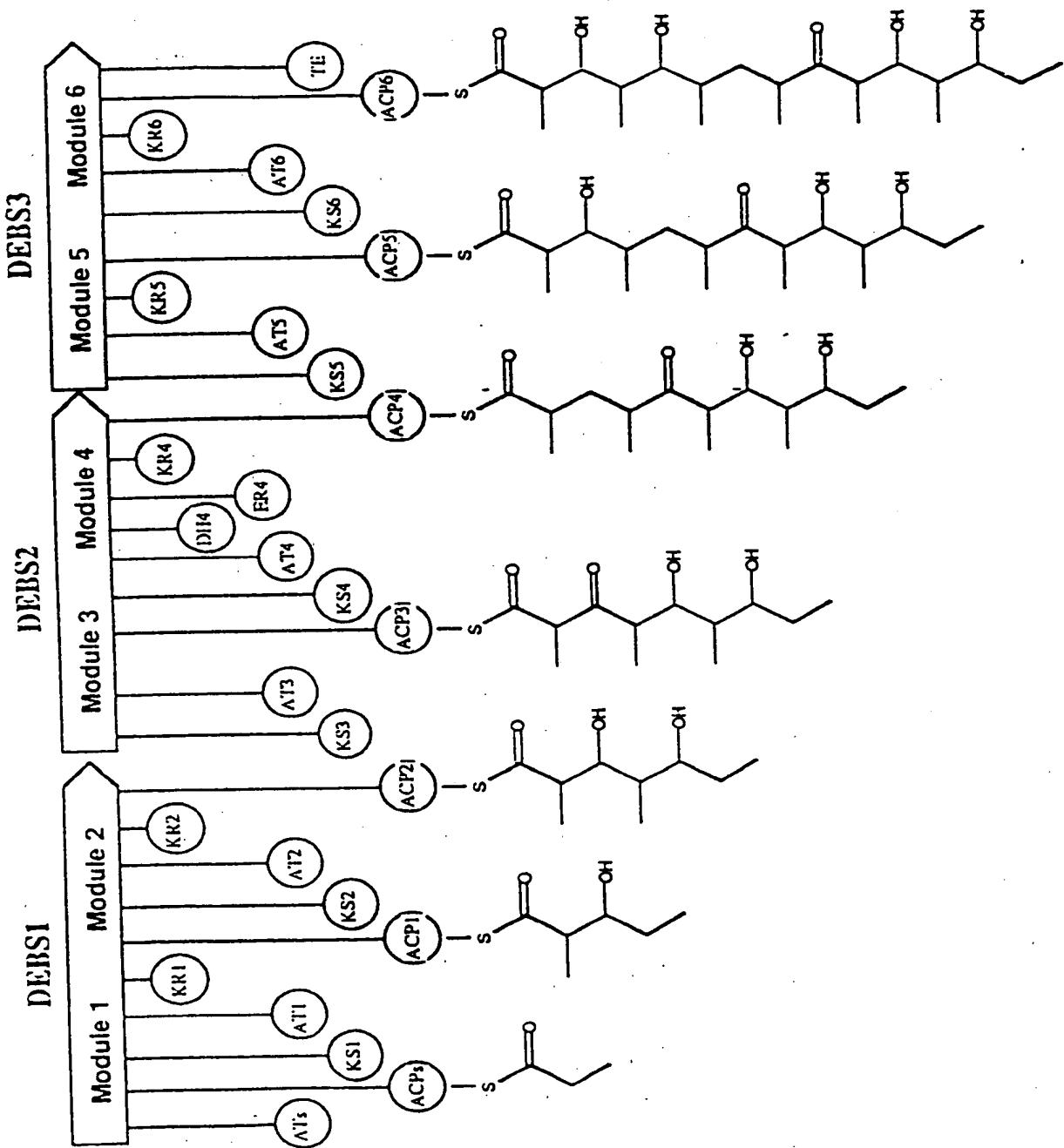


Figure 3

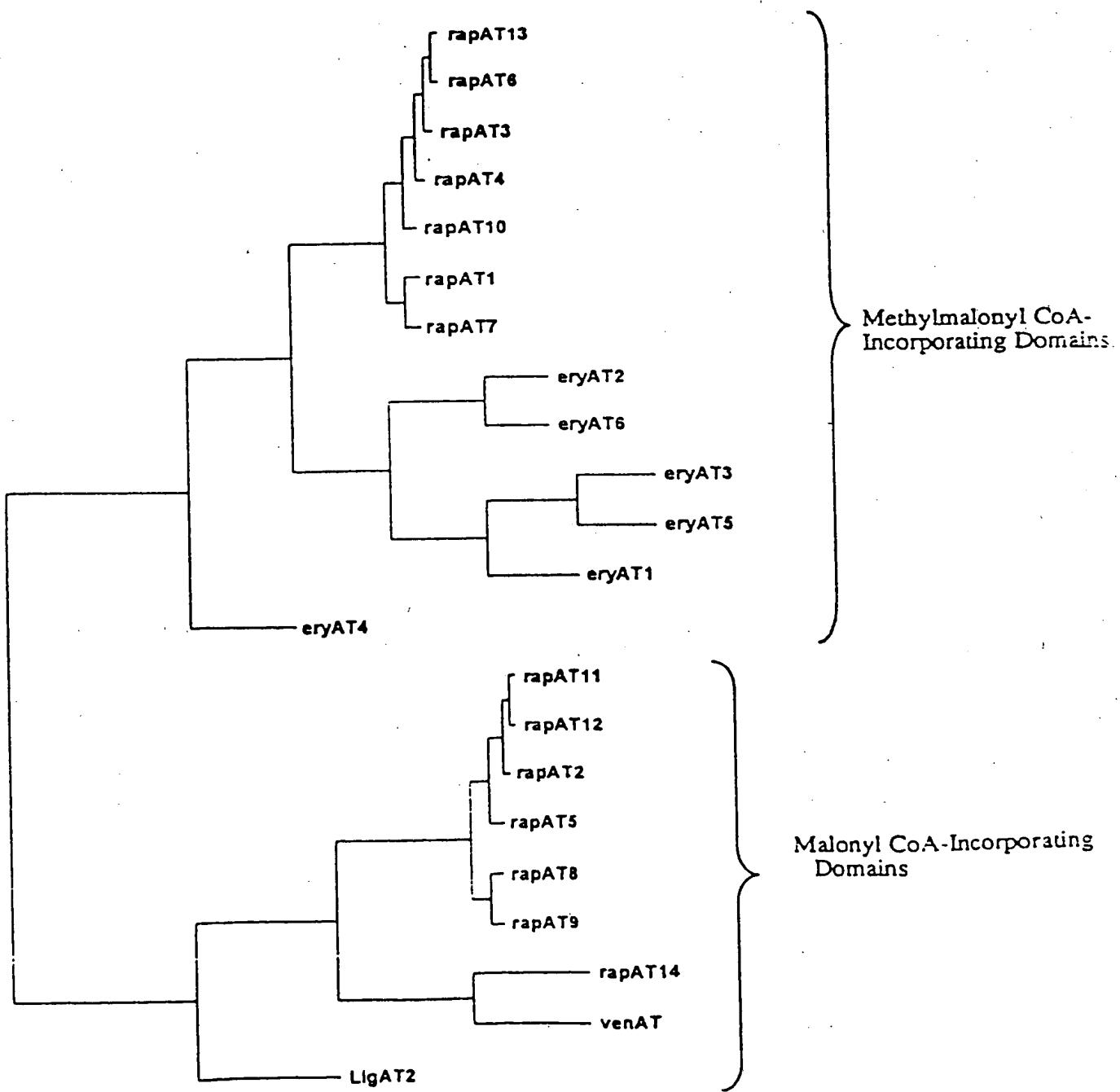


Figure 4a

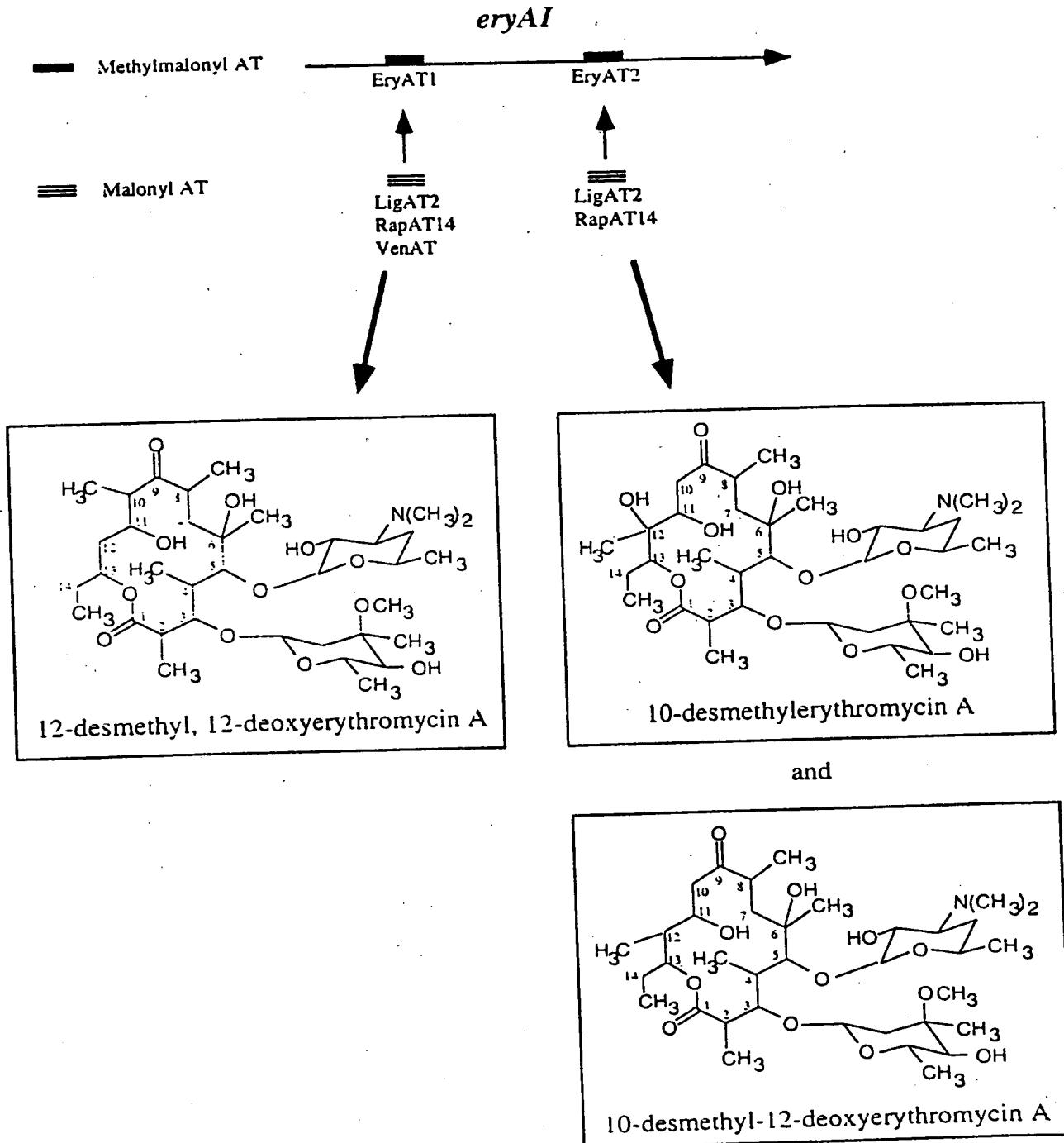


Figure 4b

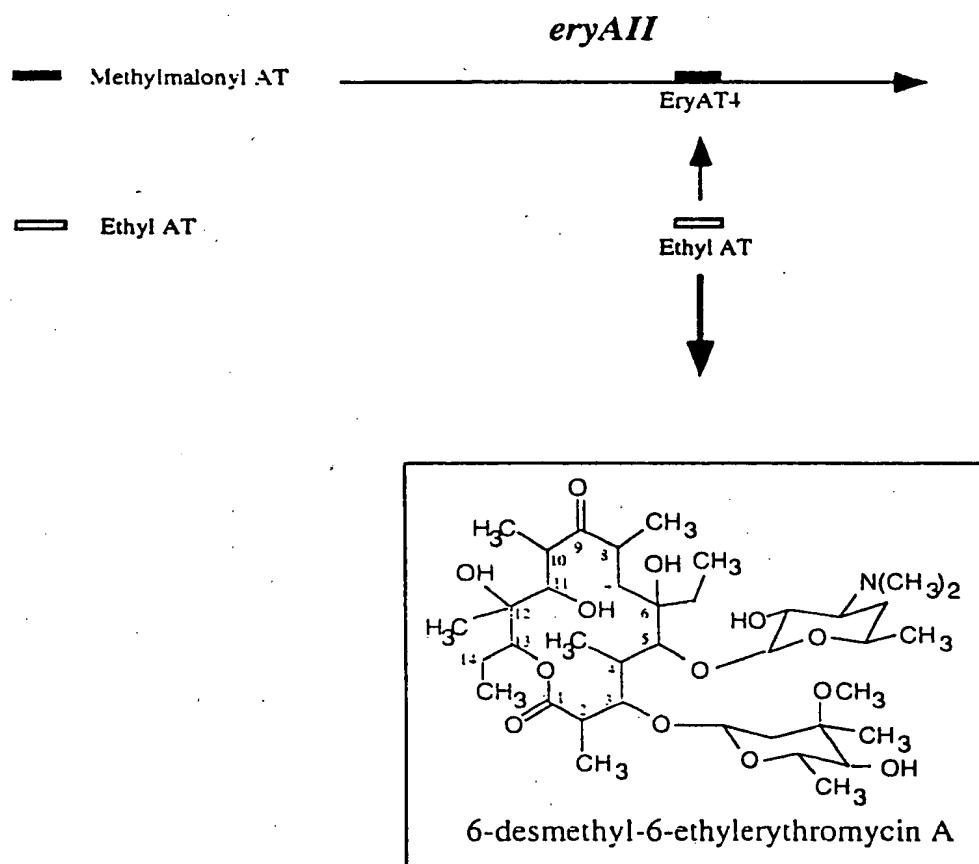
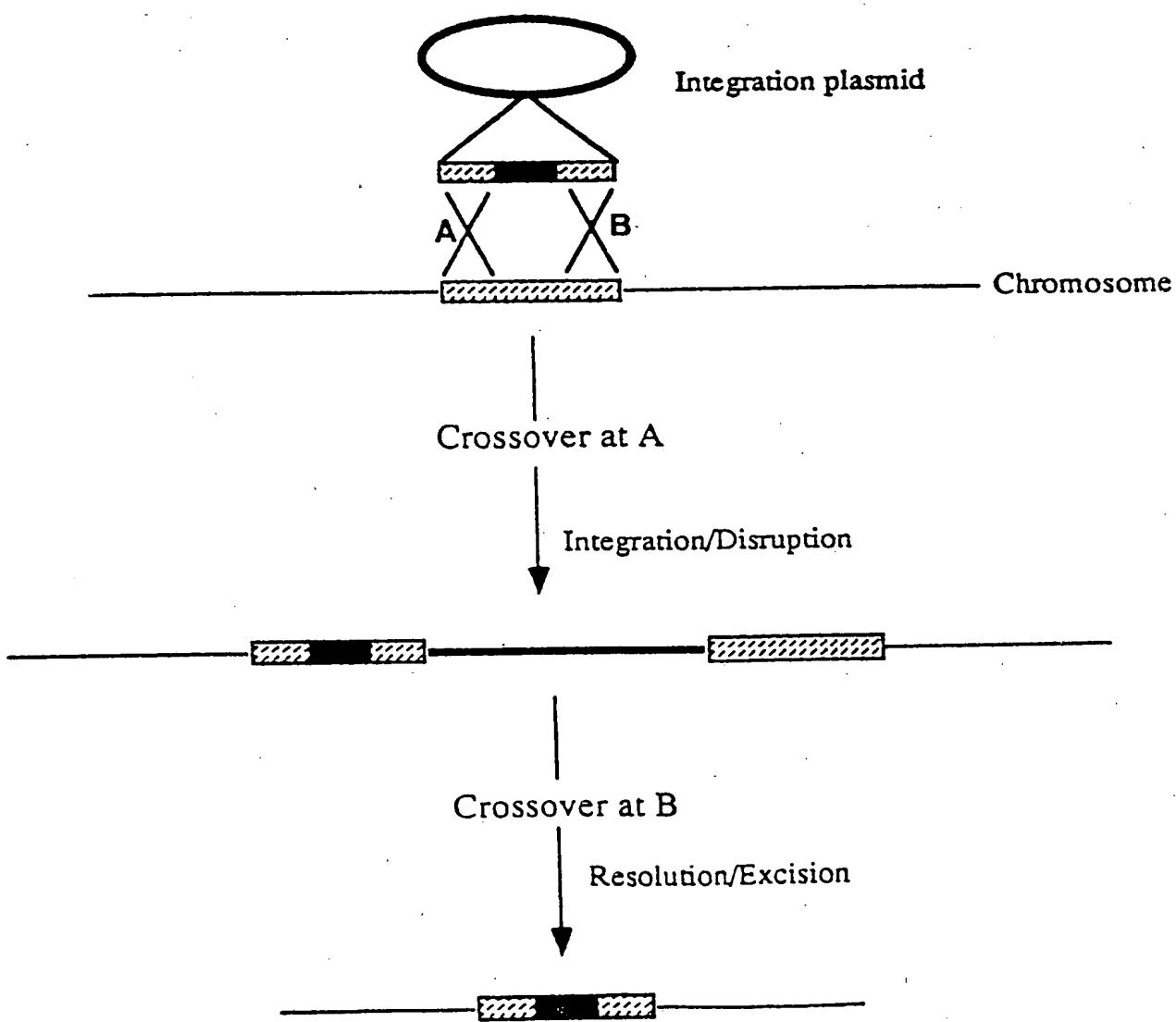


Figure 5



09735056 • 12341000

Figure 6

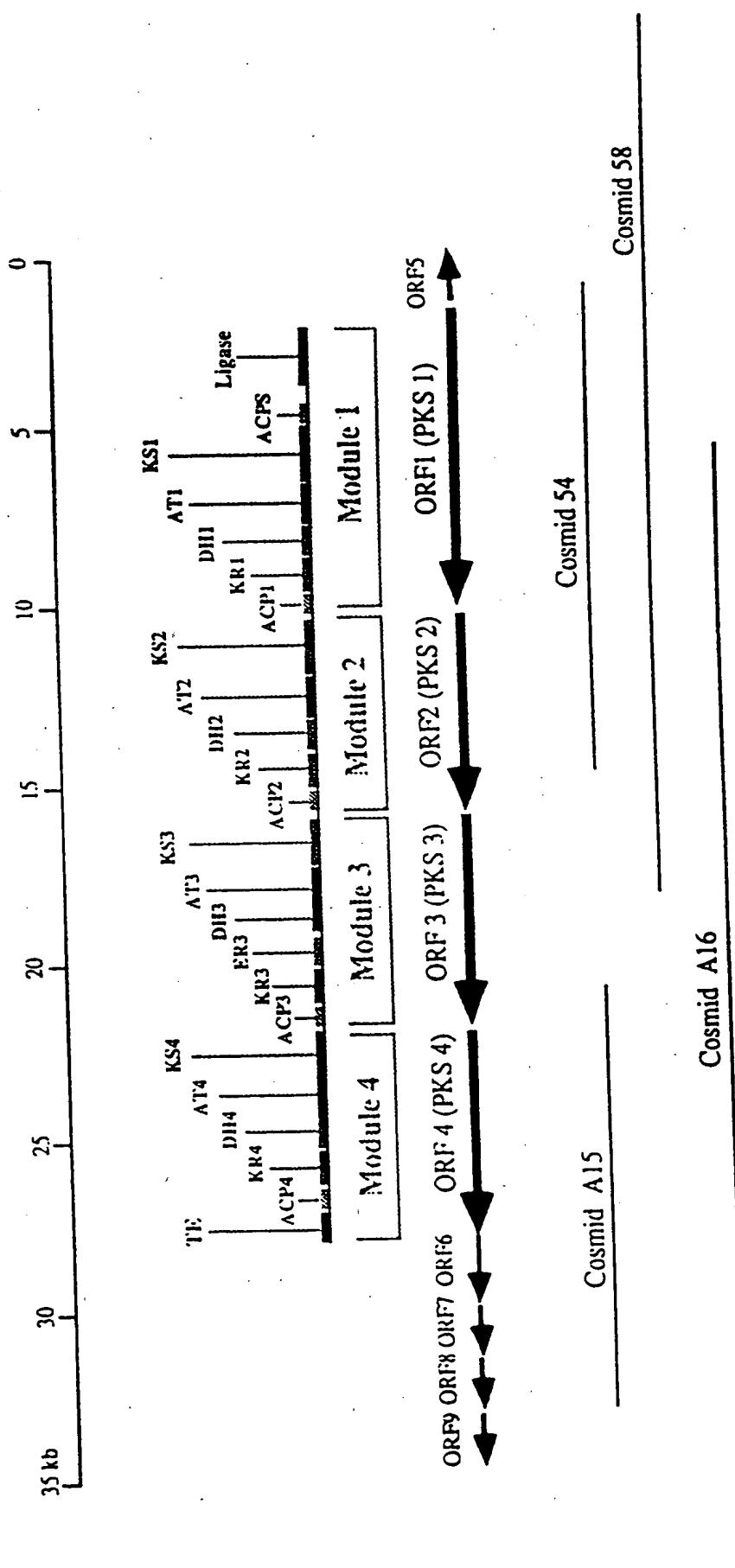


Figure 7

GGGCCGCTGGCGGTGATGTTACCGGACAGGGCTCCAACGCCCCGGCATGGGACGACAG	60
G P L A V M F T G Q G S Q R P G M G R Q	20
TTGTACGAGCACCTCCCCGTCTCGCCCAGGCACTGGACGAGGTCTCGCACTGCCACC	120
L Y E H F P V F A Q A L D E V F A L A T	40
CCCGGACTACGCGAGGTGATGTTGACCCCGACCAGGCCAAACTCCAACGCACCGAC	180
P G L R E V M F D P D Q A E T L Q R T D	60
CACGCCAGATGCCCTGTTGCCCTCGAAACCGCCCTACCGACTCTGGGAATCCTGG	240
H A Q I A L F A F E T A L Y R L W E S W	80
GGCCTGCGACCCGACATGGTCTGCGGACACTCGTCGGAGAAATCACCGCAGCCCACGTC	300
G L R P D M V C G H S V G E I T A A H V	100
TCCGGCACCCCTCACCCCTCCCCGACGCCGTCCACCTCGTACCCACACGCCACCCTCATG	360
S G T L T L P D A V H L V T T R G T L M	120
CAAAACCTGCCCGGGCGGCCATGCTGCCGTGCCACCGACCCCCCACACCCCTCCAA	420
Q N L P P G G A M L A V A T D P H T L Q	140
CCCCACCTCGACAACCACGACACCACATCTCCATGCCGCCATCACGGCCCCACGCC	480
P H I D N H H D T I S I A A I N G P H A	160
ACCGTCCTCTCCGGCGACCGCACCACCCCTCCACACATGCCACCCAACTAACACCAA	540
T V I S G D R T T L H H I A T Q L N T K	180
ACCAACTGGCTCACGTCAAGCCACGCCCTTCCACTCCCCCCTCATGCAACCCATCCTCCAA	600
T N W L N V S H A F H S P L M Q P I L Q	200
CCCTTCACCAACCACCCCTAACACCCCTCACCCACCCACACACACCCCTCATCAGC	660
P F T T T L N T L T H H P P H T P L I S	220
ATGCTACCGCCACACCCACCCACCCGACACCAACCCACTGGACCCAGCACATCACCGCA	720
M L T A T P T H P D T T H W T Q H I T A	240
CCCGTCCGCTACACCGACACCCCTCCACCACTCCACCCACGGCATCACCACTACCTC	780
P V R Y T D T L H H L H H H G I T T Y L	260
GAAATGGCCCCGACACCAACCCCTACCGCCCTGCCCGACCCCTCCCCACCAACC	840
E I G P D T T L T A L A R T T L P T T T	280
CACCTCATCCCCACCAACCCGCCGACACCAACGAAGTCCGCAGCACGAACGGCGTTG	900
H L I P T T R R N H N E V R S T N E A L	300
GGCAGGGTGTGCGGTGGCCACTCGGTGGACTGGCGGGCCCTCACTCCGACCGGGAGG	960
G R V F S V G H S V D W R A L T P T G R	320
CGTACCTCCCTGCCGACGTACCCCT	985
R T S L P T Y P	328

Figure 8

PCR oligos:

N-terminal Oligo: 5' EcoRI Tag-**CCTAGGCTGGCGGTGATGTTCA-3'**
 GGGCC

AvrII

[Engineered AvrII] [Homologous region]

C-terminal Oligo: 5' BamHI Tag-**ATGCATACGTCGGCAGGGAGGTAC-3'**
 G GG

NsI

[Engineered NsI] [Homologous region]

PCR cloning:

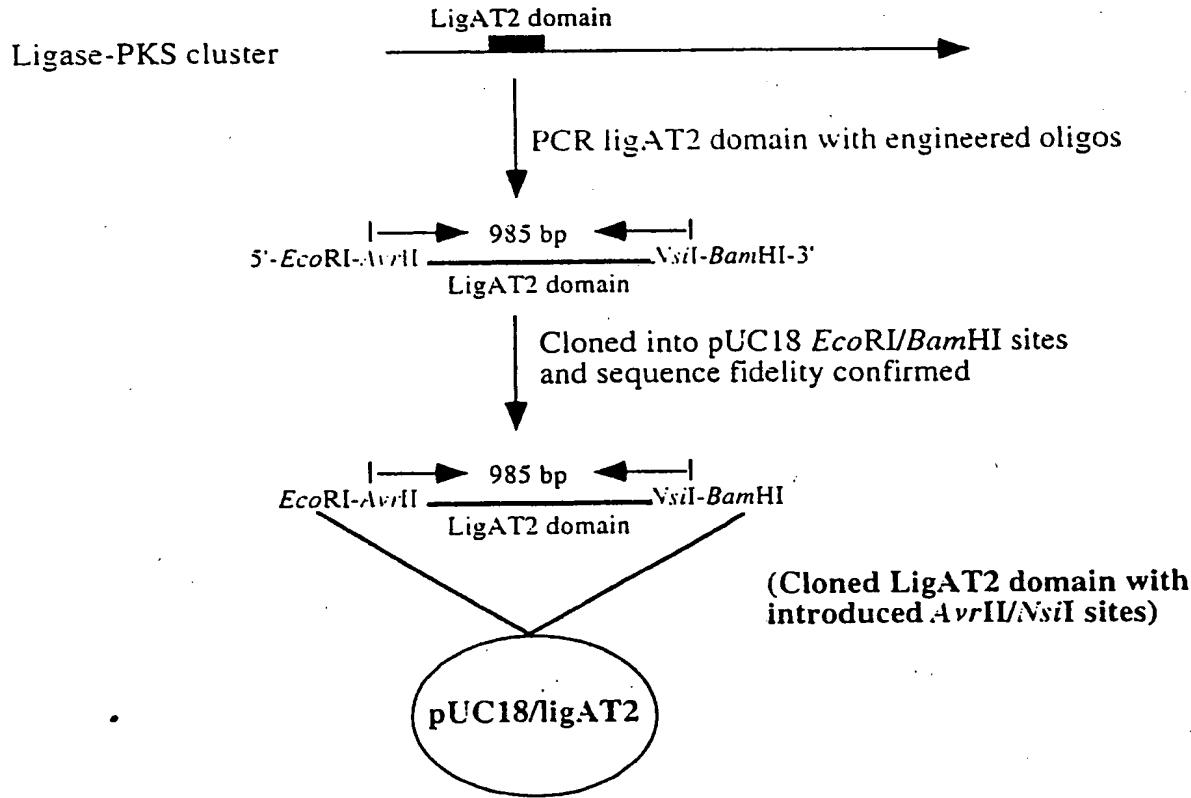


Figure 9

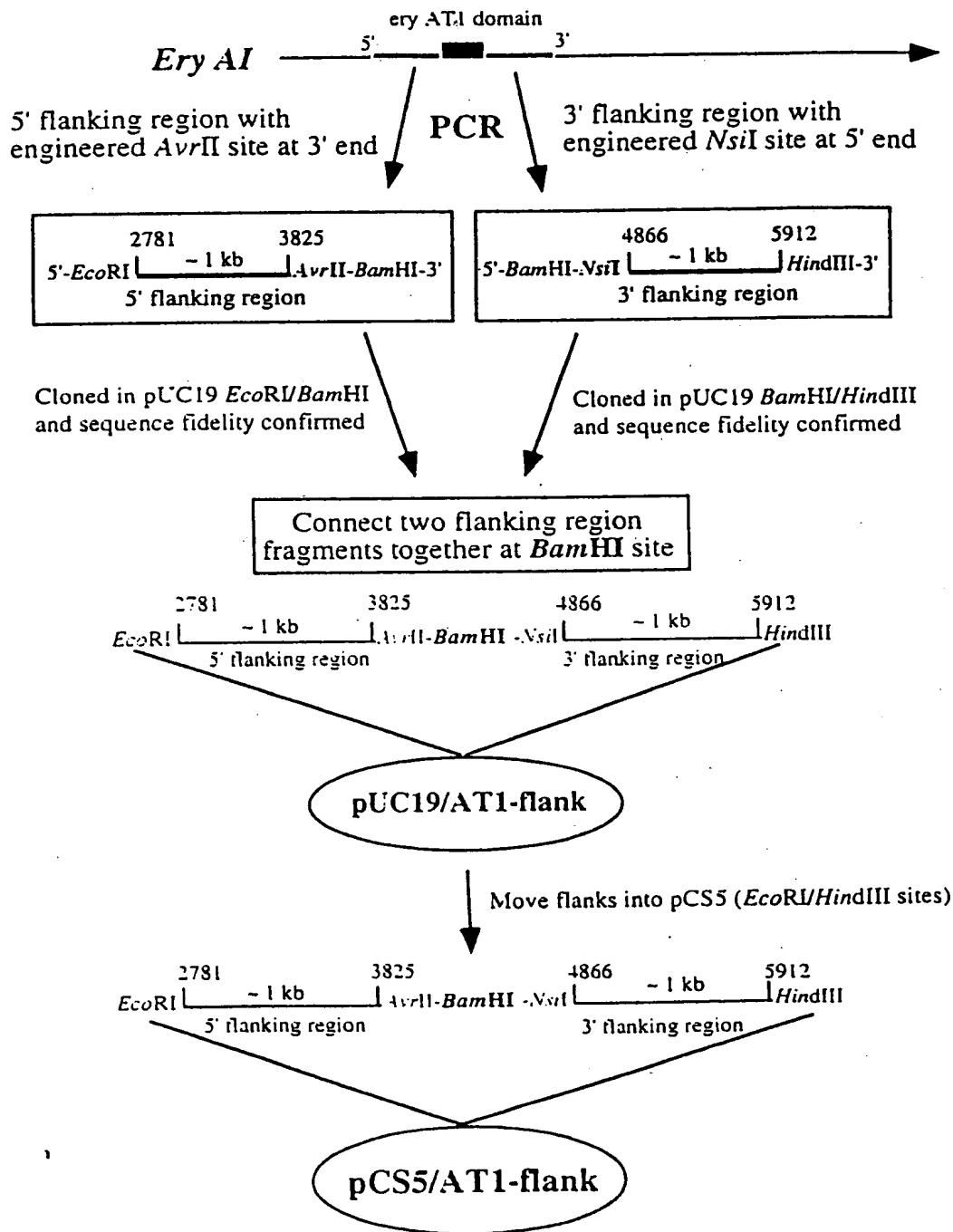
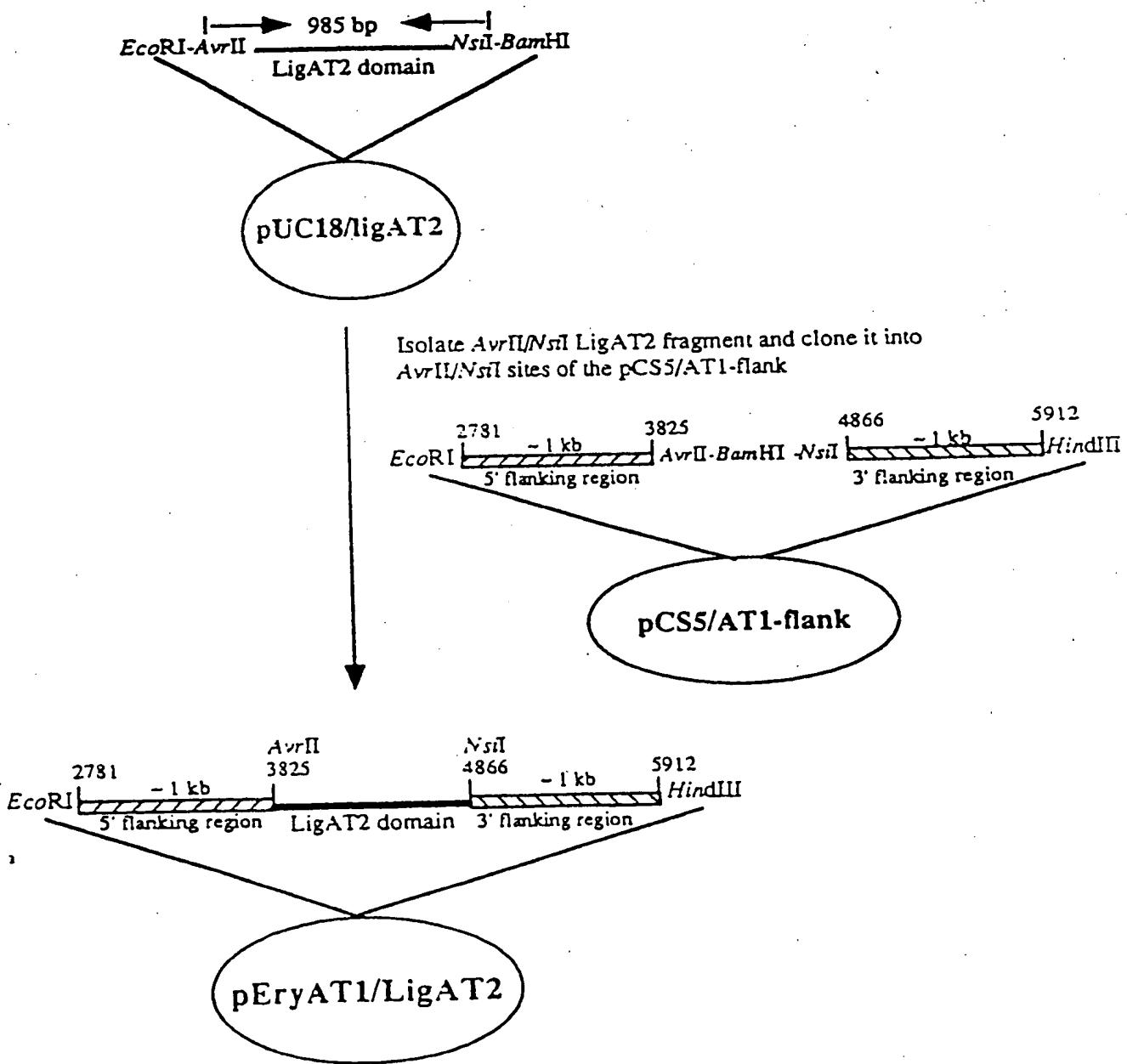
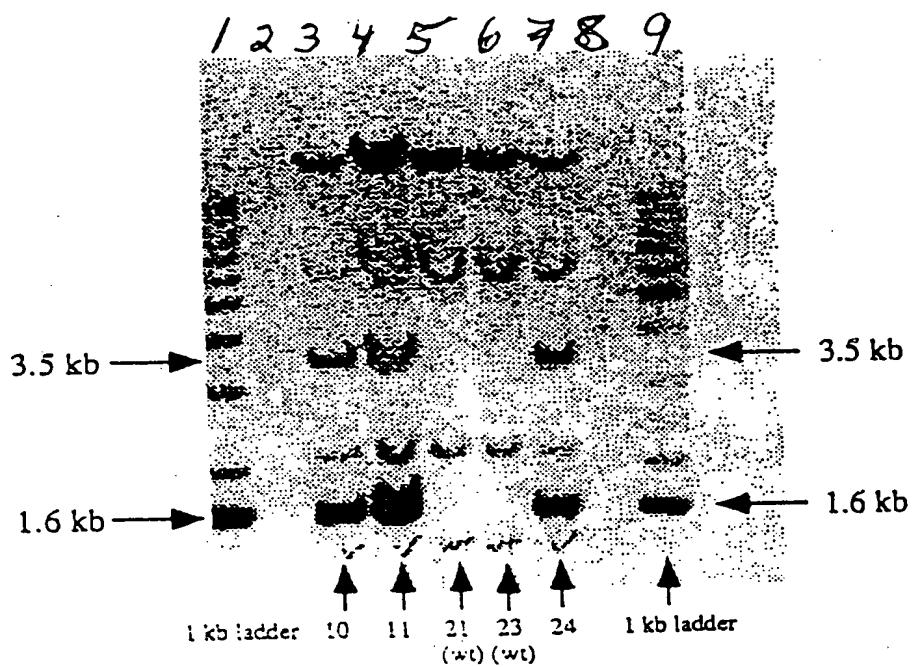


Figure 10



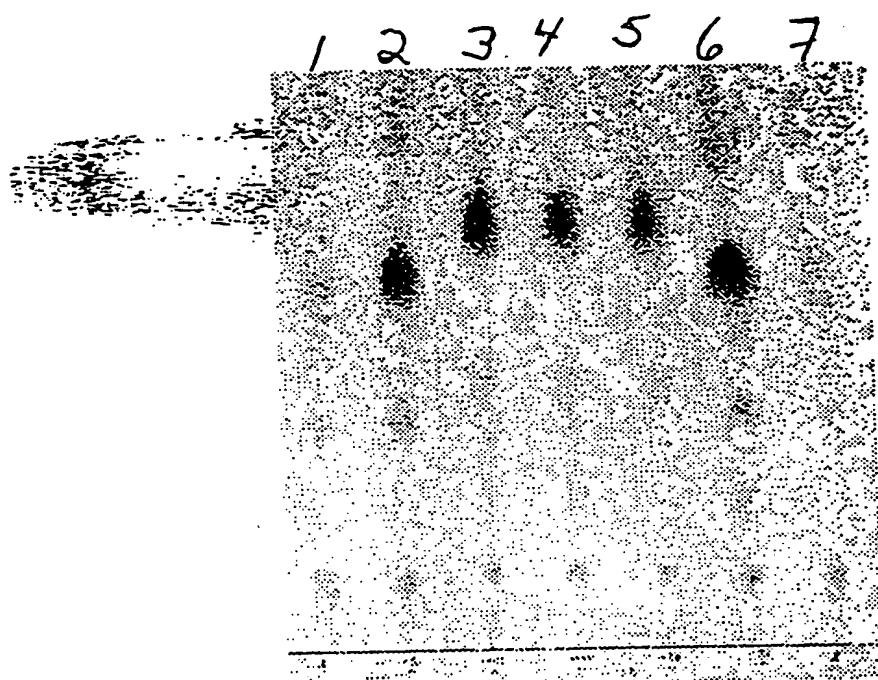
09735066 4224468

Figure 11



00735655 4224000

Figure 12



09735056 424.000

Figure 13

Construction of eryAT2 flanking regions in pCS5

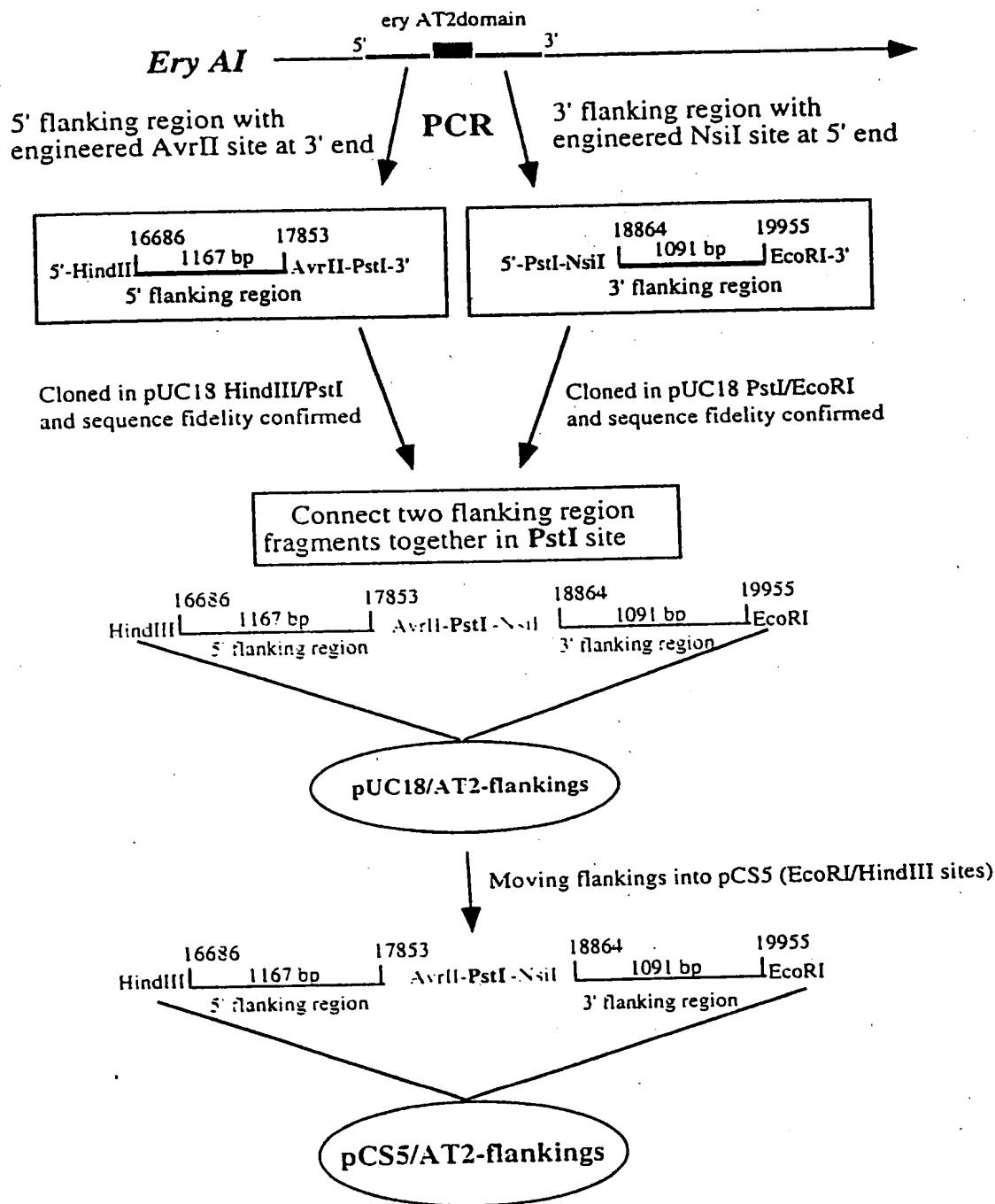


Figure 14

Scheme for Construction of pEryAT2/LigAT2 Integration Plasmid

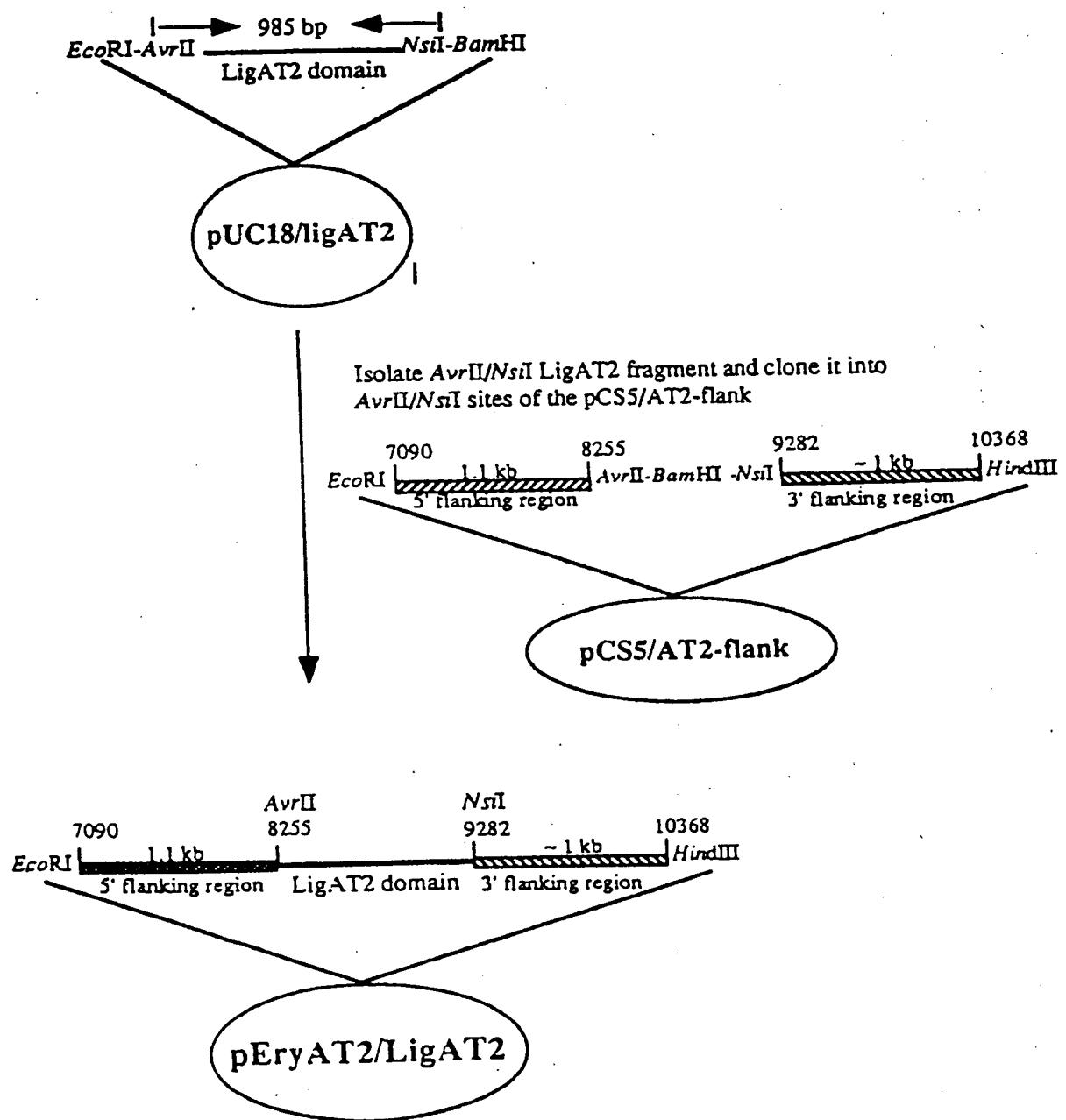
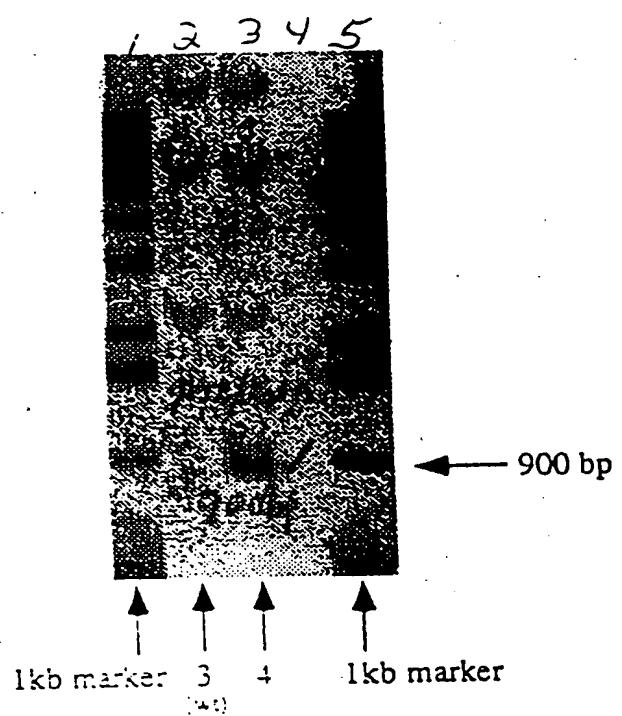


Figure 15



09735056 - 121100

Figure 16

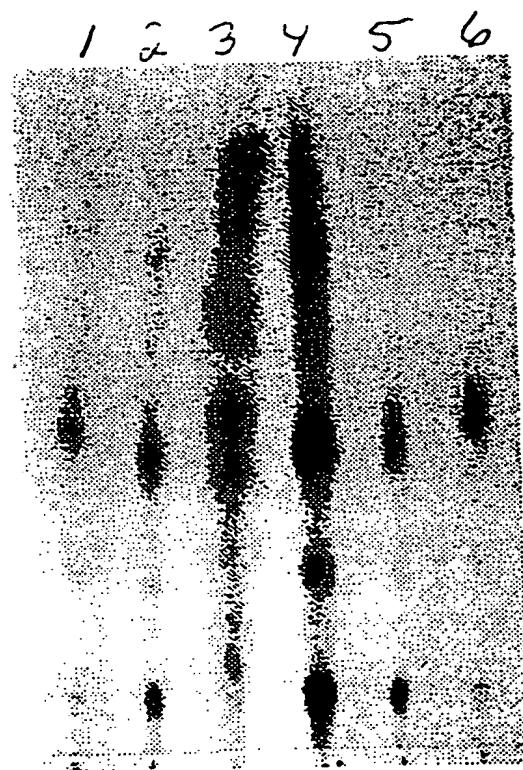


Figure 17

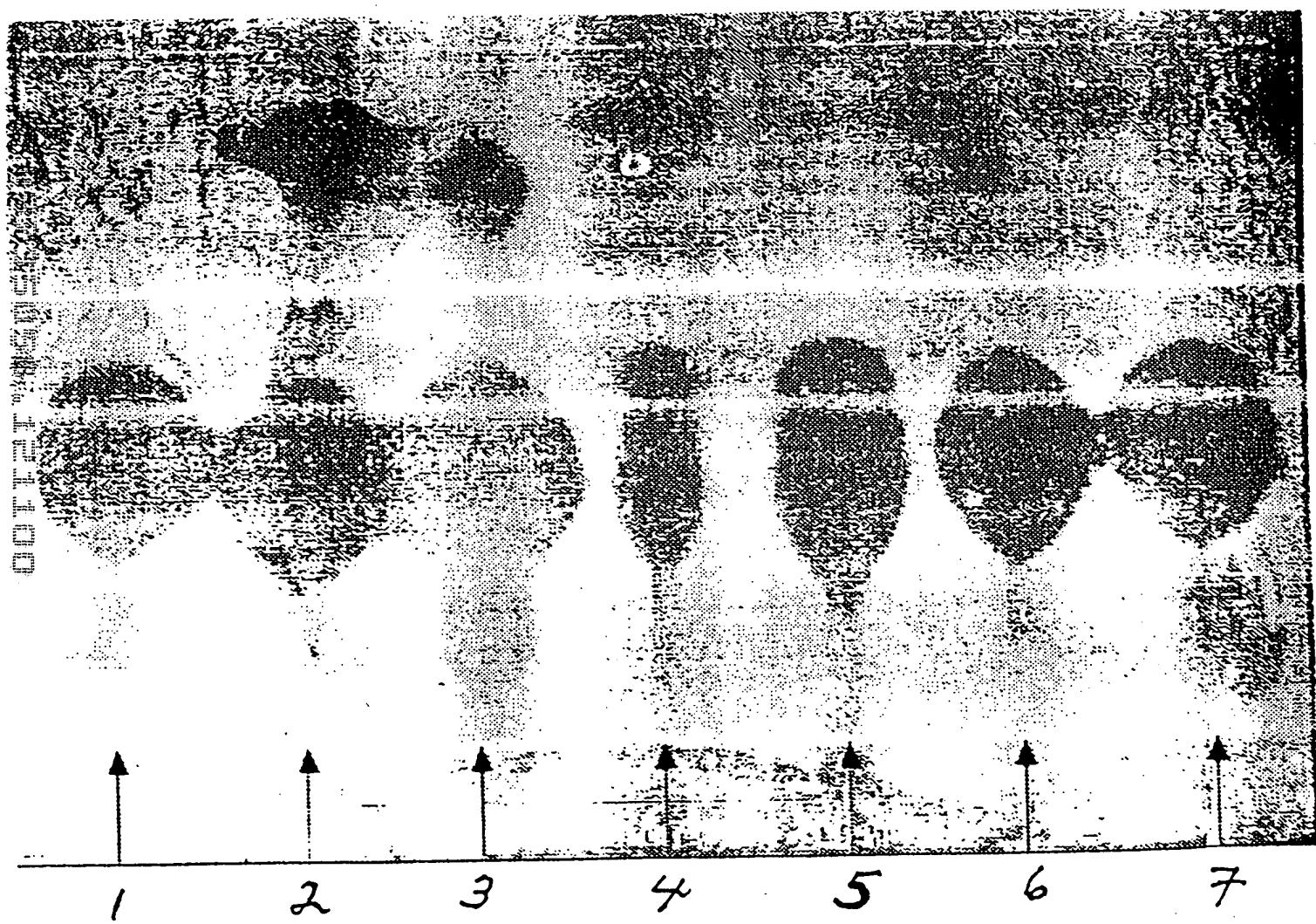


Figure 18

CCTAGGACGGCAGTCCTGCTCACCGGGCAGGGTCCCAGCGTCAGGCATGGGCGCAA	60
P R T A V L L T G Q G S Q R Q G M G R E	20
CTGTACGACCGGTACCGGTGTTGCCGCCTCGTCACGCGATCTGCGCTCAACTCGAC	120
L Y D R S P V F A A S E D A I C A Q L D	40
GGGCAACTGCCTCGTCCCTCAAGGACGTTCTTCGCCCGAGGGGTCGGAGGACGCC	180
G Q L P R P L K D V L F A P E G S E D A	60
GCGCTCATCGACCGTACGGTGGTACACAGGCGCTCTGTTGCCGTGGAGACCTCCCTG	240
A L I D R T V F T Q A A L F A V E T S L	80
TTCCGGCTGTTCGAGGCCAACGGCTCGTCCCCACTACCTCATCGGCCACTCCATCGGC	300
F R L F E A H G L V P D Y L I G H S I G	100
GAAGTGACCGCGGCCAACCTGGCCGGGTCCCTCGATCTGGCGGACCGTGCCTGGTC	360
E V T A A H L A G V L D L A D A C V L V	120
GCCCACCGCGGCCGCTGATGCAGTCGGCCCGGGCCGGCGCGATGGCCGGTCCAG	420
A H R G R L M Q S A R A G G A M A A V Q	140
GCGAGCGAGGACGAGGTACCGAGGCCCTCGCACCTCGACGATGCGGTTGCCGTGGCC	480
A S E D E V R E A L A T F D D A V A V A	160
GGAGTCAACGGCCCGAACGCCACCGTCGTCTCCGGCGACGAGGACGCCGGTCA	540
G V N G P N A T V V S G D E D A V E R L	180
GTCGCGCGCTGGCGAGCAGGGCAGGCCAGAAGCGGCTGCCGGTCAGCCACGCC	600
V A R W R E Q G R R T K R L P V S H A F	200
CACTCGCCGCACATGGACGGGATCGTCACGAGTTCGTACCGCCGTCTCCGGCTCAC	660
H S P H M D G I V D E F V T A V S G L T	220
TTCCGCTCCCCGACGATCCGGTCGTCTCCAACGTCACCGGACCCCTCGCACGCC	720
F R S P T I P V V S N V T G T L A T V D	240
CAGCTGACCTCGCCCGCGTACTGGGACGCCACATCCGGAGGCCGTGCGCTCGGCC	780
Q L T S P A Y W A R H I R E A V R F A D	260
GGGGTGCAGTACCTGGAGGGCGAGGGCGTCACCGAATGGCTGGAGCTCGGGCC	840
G V R Y L E G E G V T E W L E L G P D G	280
GTTCTCGTCGCCCTGGTCAGGGACTGGCTGGCGAAGGAGGCAGGATCGCTCGCG	900
V L V A L V E D C L A K E A G S L A S A	300
CTGCGCAAGGGGGCGAGCGAGCCCCACACCGGGCGCGCCATGGCCCGCGCGGTG	960
L R K G A S E P H T V G A A M A R A V L	320
CGCGGATCCGGCCCCGACTGGCGCGGTGTTCCCCGGCGCACGGCGGGTCA	1020
R G S G P D W A A V E P G A R R V D L P	340
ACGTATGCAT	1030
T Y A	343

Figure 19

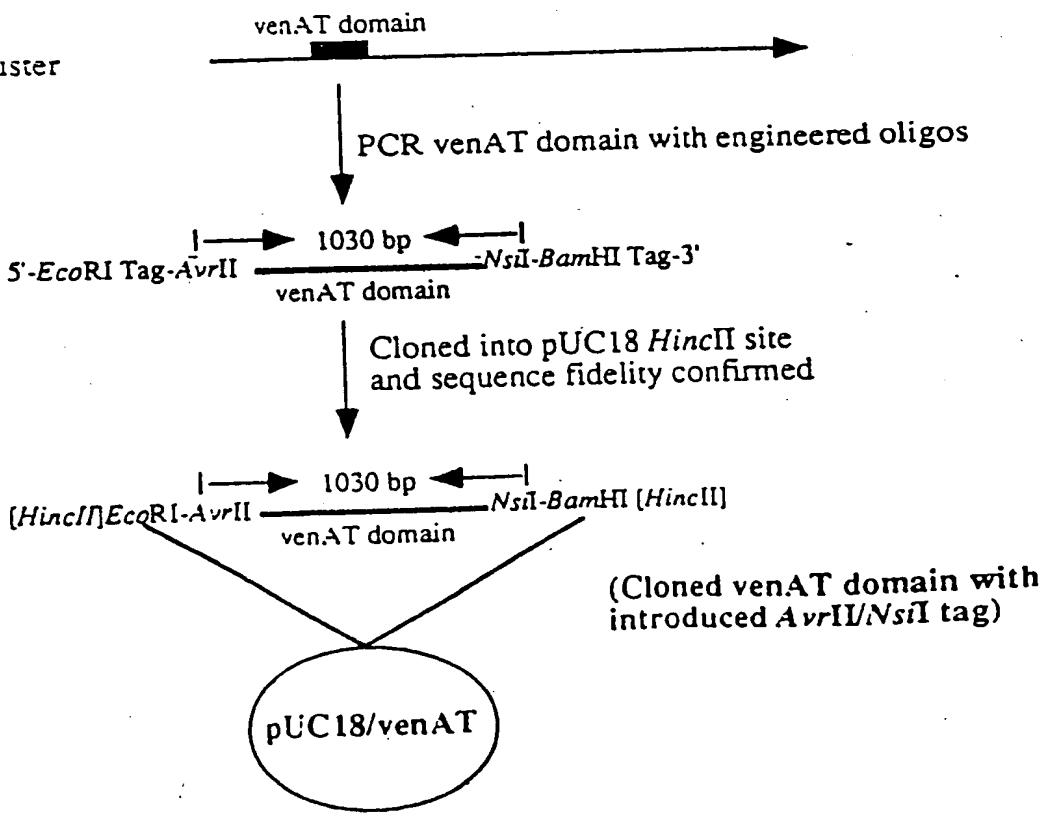
PCR oligos:

N-terminal Oligo: 5' EcoRI Tag-
 CCTAGGACGGCAGTCCTGCTCAC-3'
 GGCC
 [Engineered AvrII || Homologous region]

C-terminal Oligo: 5' BamHI Tag-ATGCATACTCGGAAGGTGACCCG-3'
 C C
 [Engineered NsiI || Homologous region]

PCR cloning:

Ven-PKS cluster



09725056-123408

Figure 20

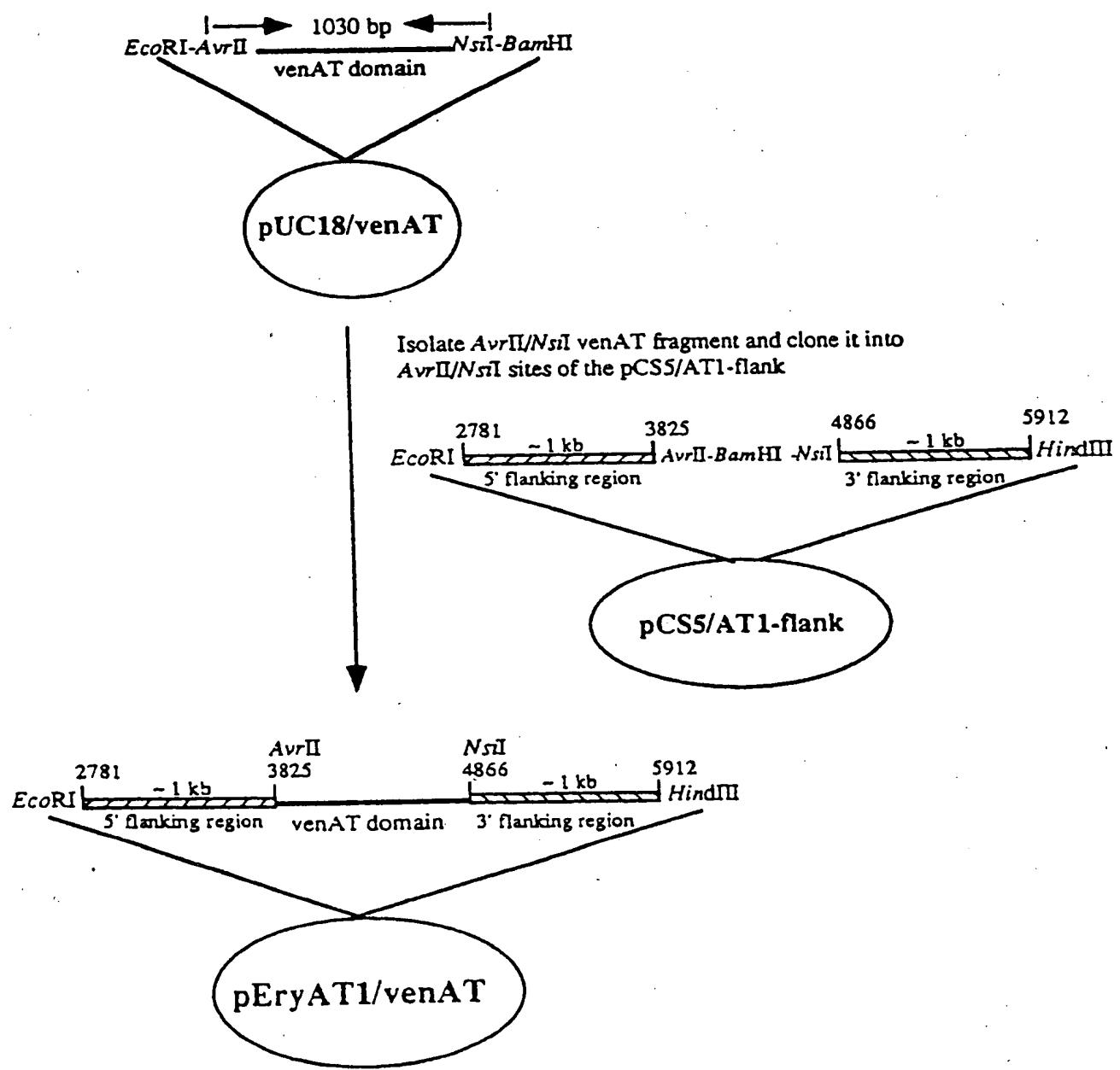
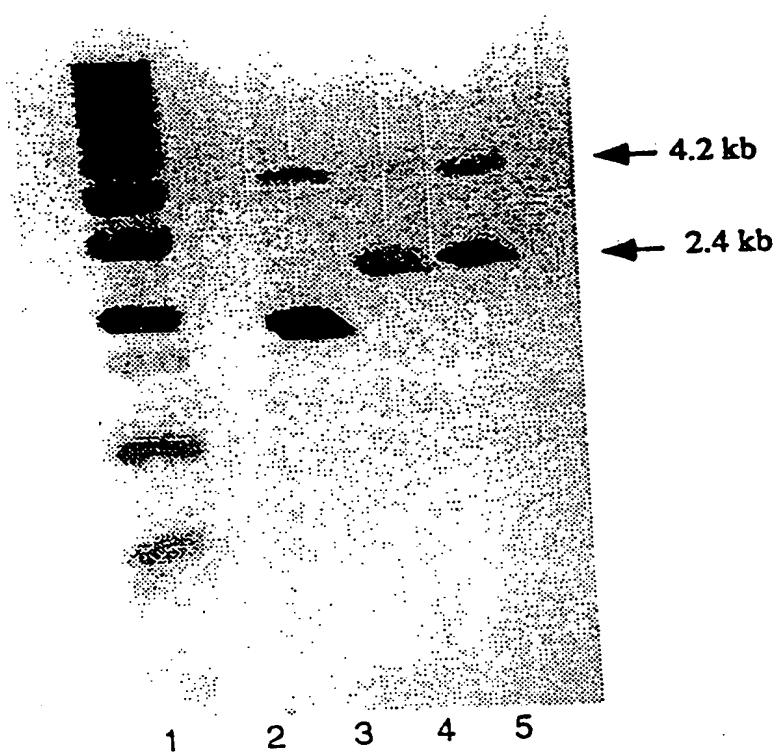


Figure 21



09735056 "124100

Figure 22

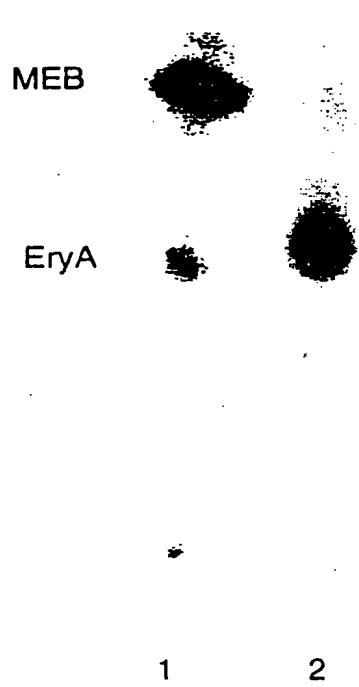


Figure 23

PCR oligos:

N-terminal Oligo: 5' *Eco*RI Tag-CCTAGGGTTGCCTTCCTGTTCGAC-3'
 GGC C
 AvrII
 Engineered AvrII || Homologous region

C-terminal Oligo: 5' *Hind*III Tag-ATGCATAGACCGGCAGATCCACCG-3'
 C G
 NsiI
 Engineered NsiI || Homologous region

PCR cloning:

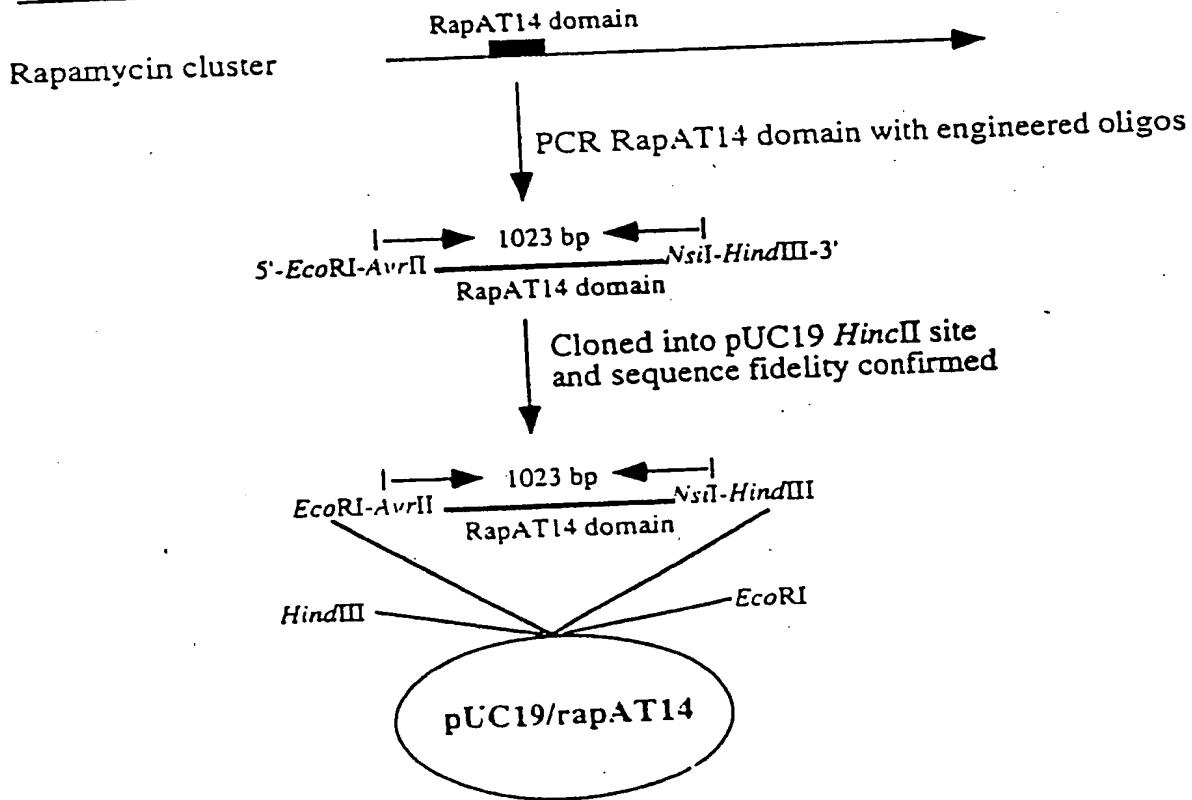


Figure 24

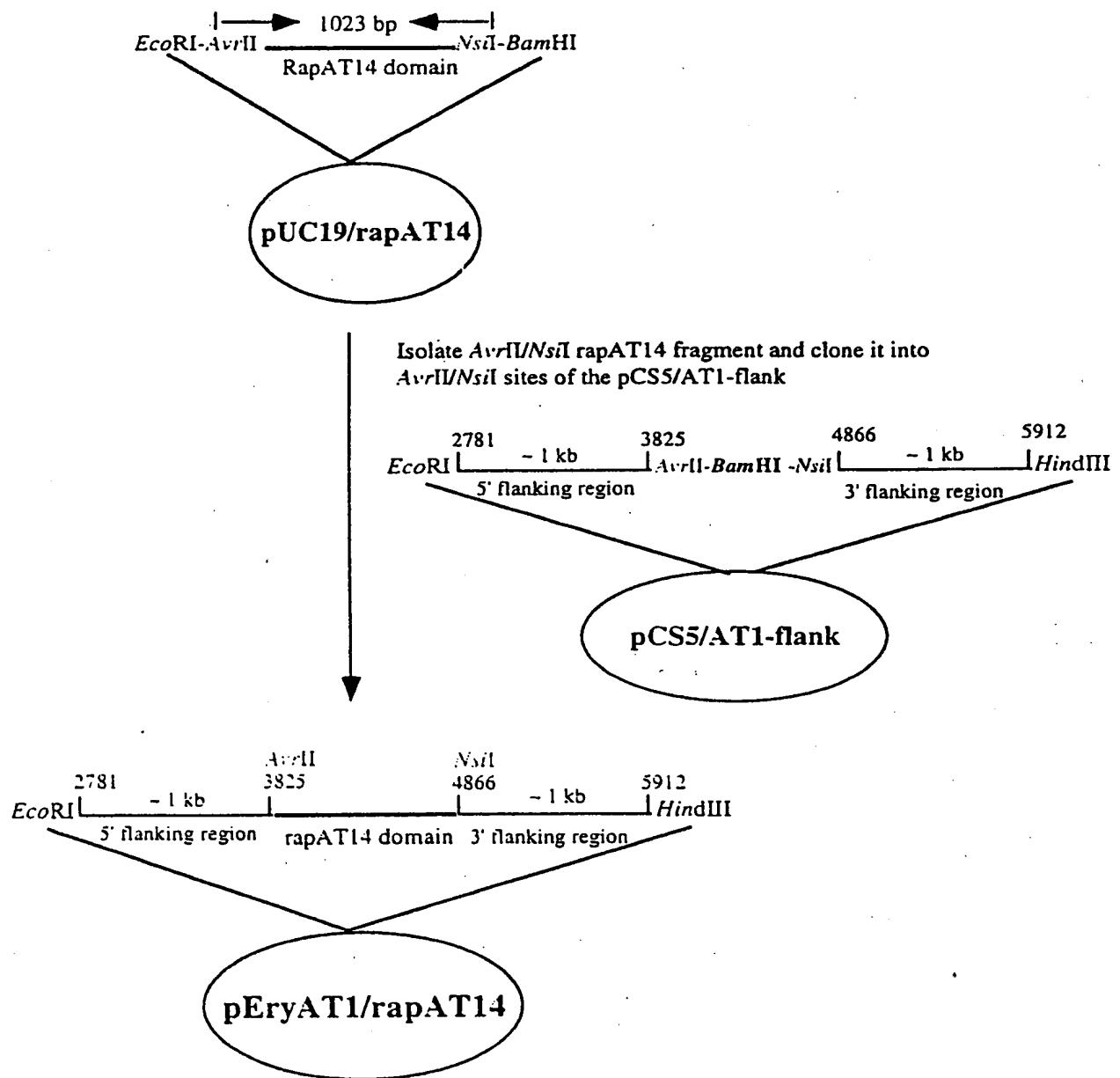
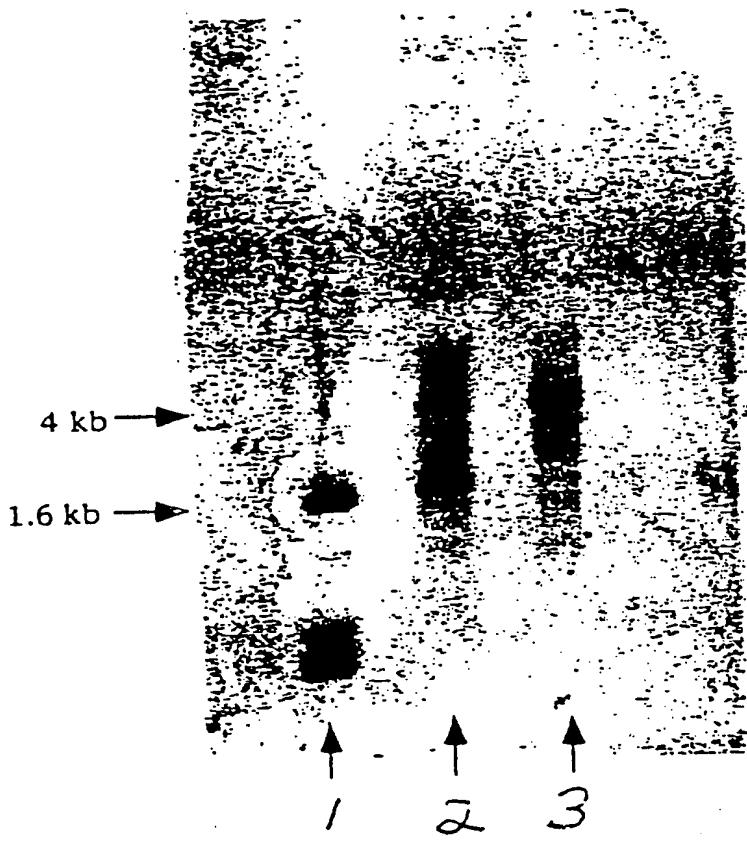


Figure 25



09235056 - 121100

Figure 26



09735056 121100

Figure 27

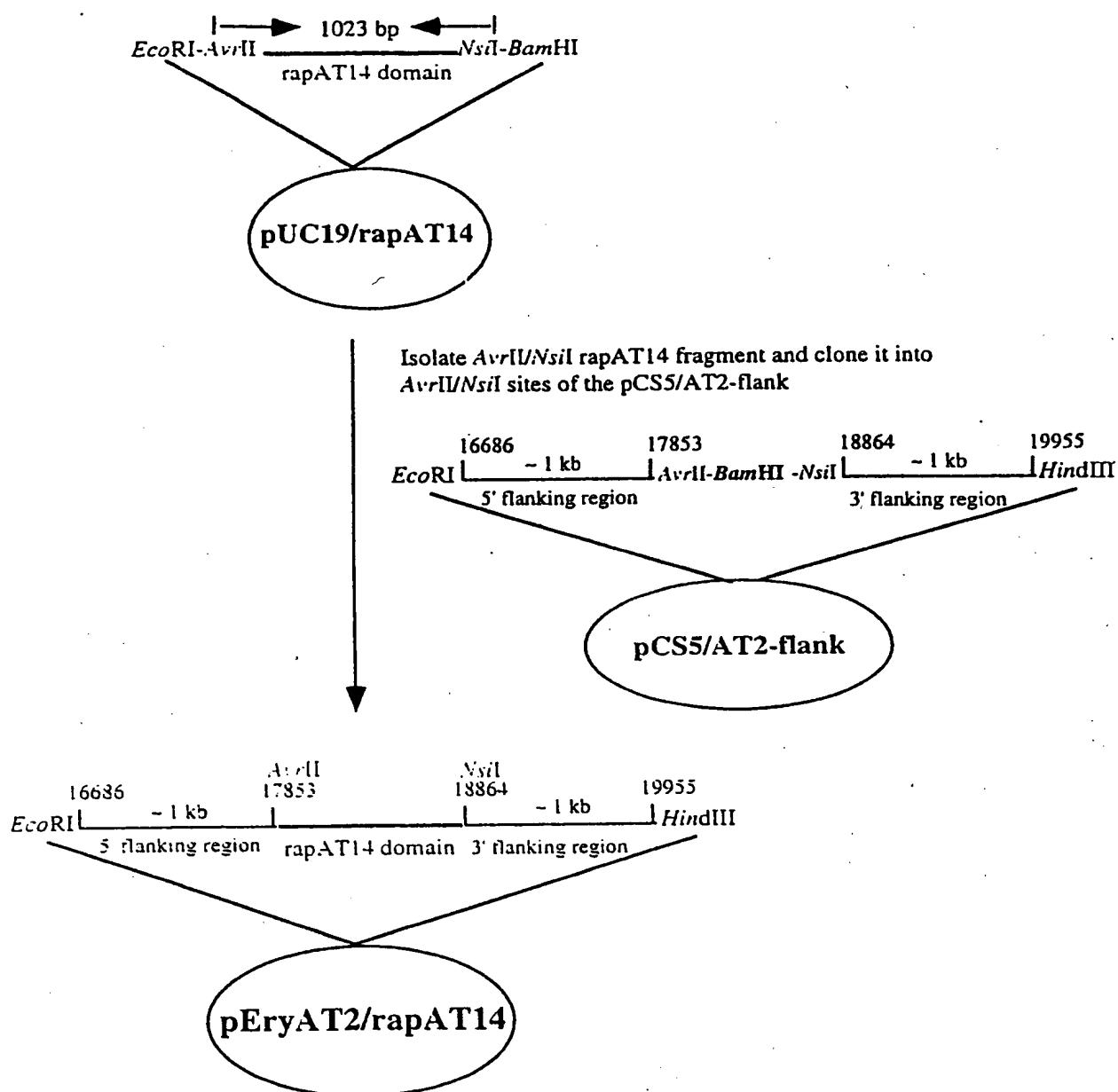
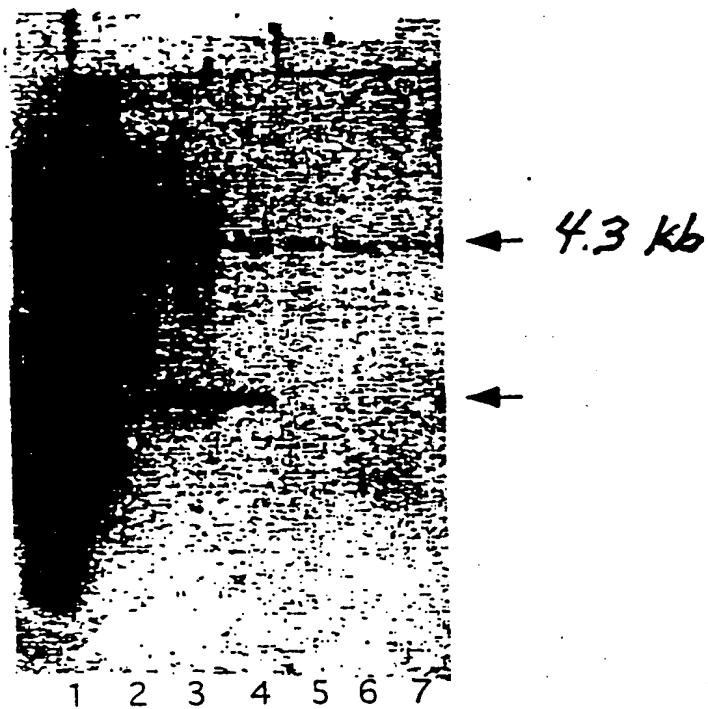
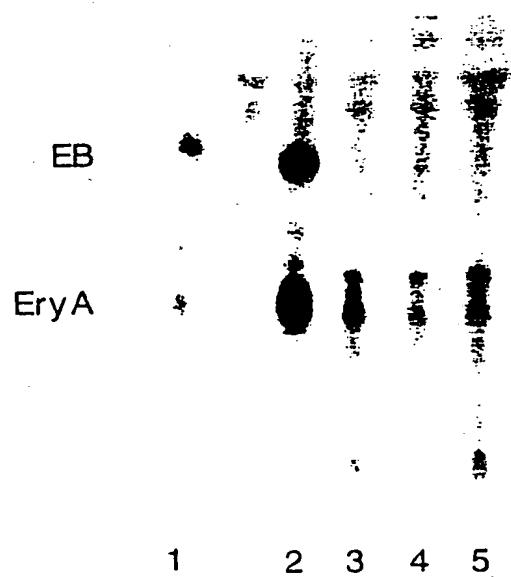


Figure 28



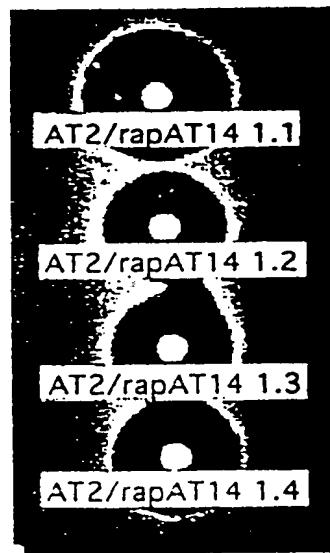
09235056 • 421300

Figure 29



0 9 7 2 5 0 5 6 6 4 2 4 4 2 6

Figure 30



0923505 - 144100

Figure 31

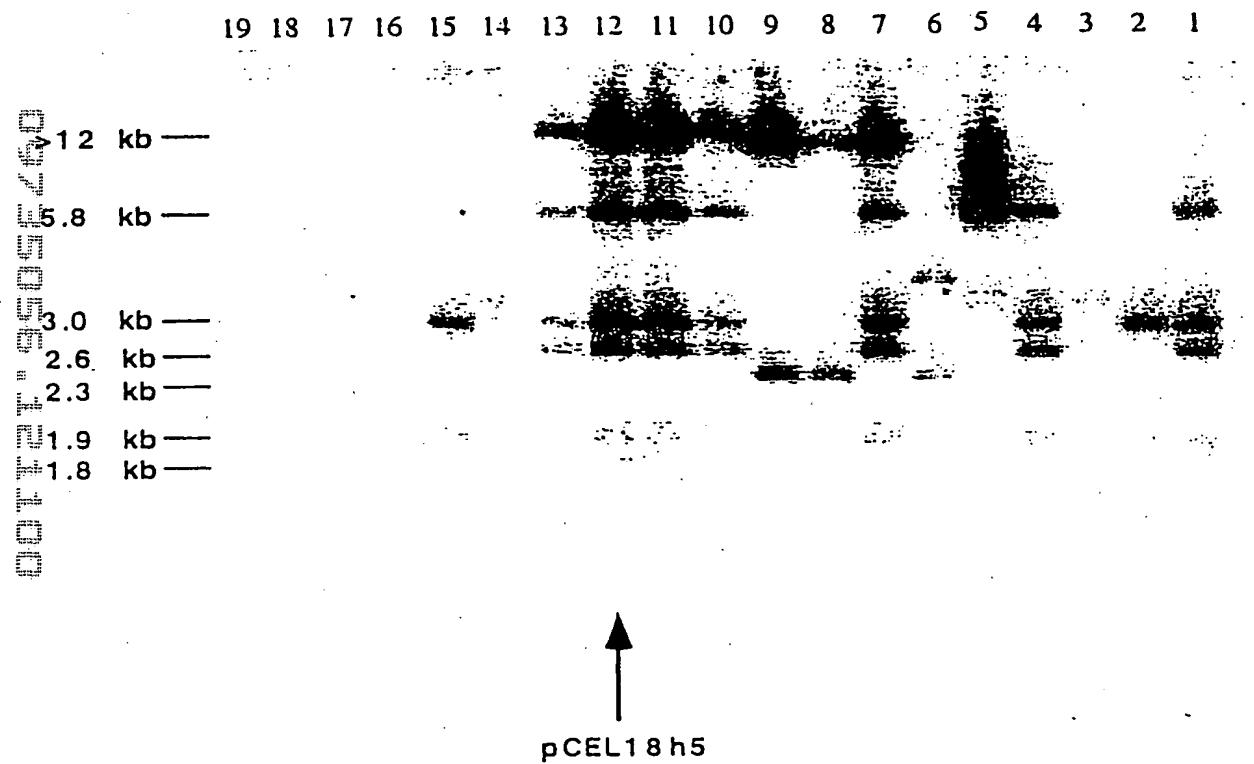
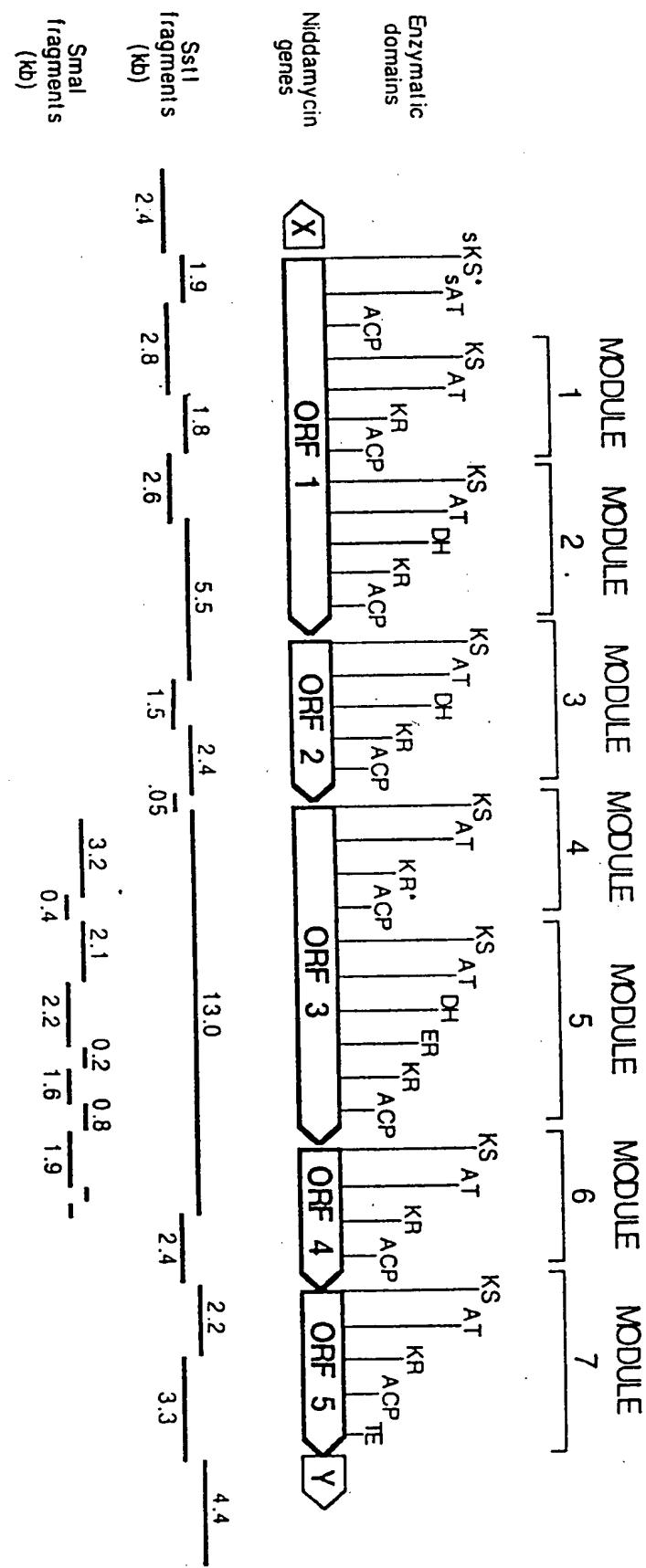


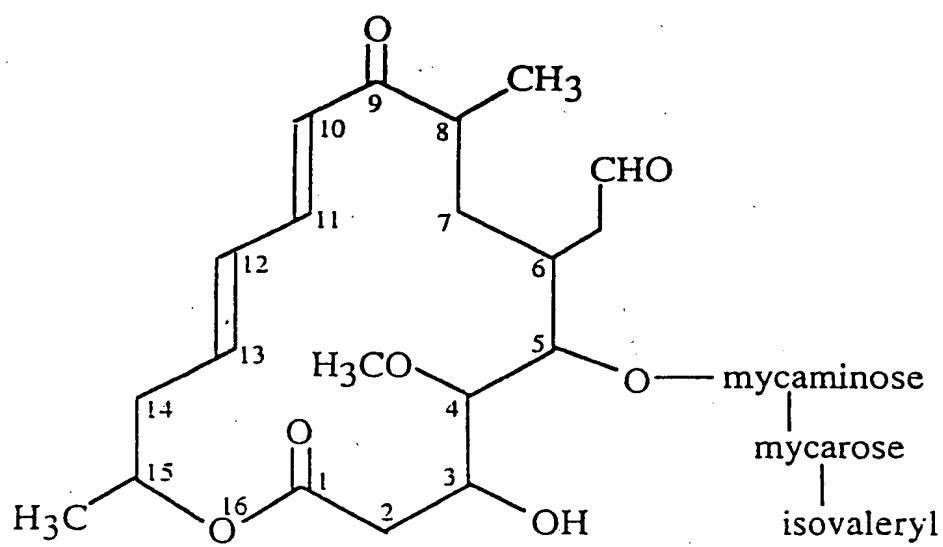
Figure 32



pCEL18h5

pCEL13f5

Figure 33



09735056 • 424-A00

Figure 34

GCCGACCGTGTCTGTTCTGGTCCCCGGCCAGGGCTCGCAGTGGGCCGGAATGGCCGAG 60
 A D R V V F V F P G Q G S Q W A G M A E 20

 GGGCTGCTGGAGCGGTCCGGCGCGTCCGGAGTGCAGGCCGACTCGTGCACGCCGCGCTG 120
 G L L E R S G A F R S A A D S C D A A L 40

 CGGCCGTACCTCGGCTGGTCGGTGCTGAGCGTGCTGCCGGAAACCGGACGCCCTCG 180
 R ? Y L G W S V L S V L R G E ? D A P S 60

 CTCGACCGGGTCGACGTGTCAGCCGGTGCTGTTACGATGATGGTCTCGCTCGGGCG 240
 L D R V D V V Q P V L F T M M V S L A A 80

 GTCTGGCGTGCCTGGGGGTGGAACCGGCGGCGTCGTCGGCACTCGCAGGGTGAGATC 300
 V W R A L G V E P A A V V G H S Q G E I 100

 GCCGCTGCCCATGTCGCCGGTGCCTGCGCTGGACGACTCGGCCCGGATCGTCGCCCTG 360
 A A A H V A G A L S L D D S A R I V A L 120

 CGCAGTCGGCGTGGCTCGGACTGGCGGGCAAGGGCGGCATGGTGGCGGTGCCGATGCCG 420
 R S R A W L G L A G K G G M V A V P M P 140

 GCGGAGGAGCTGCCCGCGGGCTGGTGACGTGGGGGACCGTCTGCCGTGCCGCCGTC 480
 A E E L R P R L V T W G D R L A V A A V 160

 AACAGCCCCGGTCTGGCCGTGCGAGGCAGCCGGAGGCCGCTGCCGAACTGGTGGCG 540
 N S P G S C A V A G D P E A L A E L V A 180

 CTGCTGACGGGTGAGGGCGTGACGCCCGGCCATCCCGGGCTGACACGCCGCCAAC 600
 L I T G E G V H A R P I P G V D T A G H 200

 TCGCCCGAGGTGGACGCCGGTGGCGGGCTCATCTGCTGGAGGTGCTGCCCGGGTCCGCC 660
 S P Q V D A L R A H L L E V L A P V A ? 220

 CGACCGGGGACATCCCGTTCTACTCGACGGTGACCCGGGGCTGCTGGACGGCACCGAG 720
 R P A D I P F Y S T V T G G L L D G T E 240

 CTGGACGCGACGTACTGGTACCGCAACATGCGCAGGCCGTCGAGTTCGAGCGGGCCACA 780
 L D A T Y W Y R N M R E P V E F E R A T 260

 CGGGCGCTGATGCCGACGGGACGACGTCTCCTGGAGACGAGGCCGCATCCCATGCTG 840
 R A L I A D G H D V F L E T S P H P M L 280

 GCCGTGGCGCTGGAGGACACGGTCACCGACCCGGCACCGACGCCGGTGCTGGGACC 900
 A V A L E Q T V T D A G T D A A V L G T 300

 CTGGCGCCCGCCACGGCGGTCTCGCGCGCTGGCCCTGGCCGTCGCCGCCCTCGCG 960
 L R R R H G G P R A L A L A V C R A F A 320

 CACGGCGTGGAGGTGGACCCCGAGGGCGGTCTTCGGTCCGGCGCACGGCCCGTGGAGTTG 1020
 H G V E V D P E A V F G P G A R P V E L 340

 CCCACCTATCCG 1032
 P T Y P 344

Figure 35

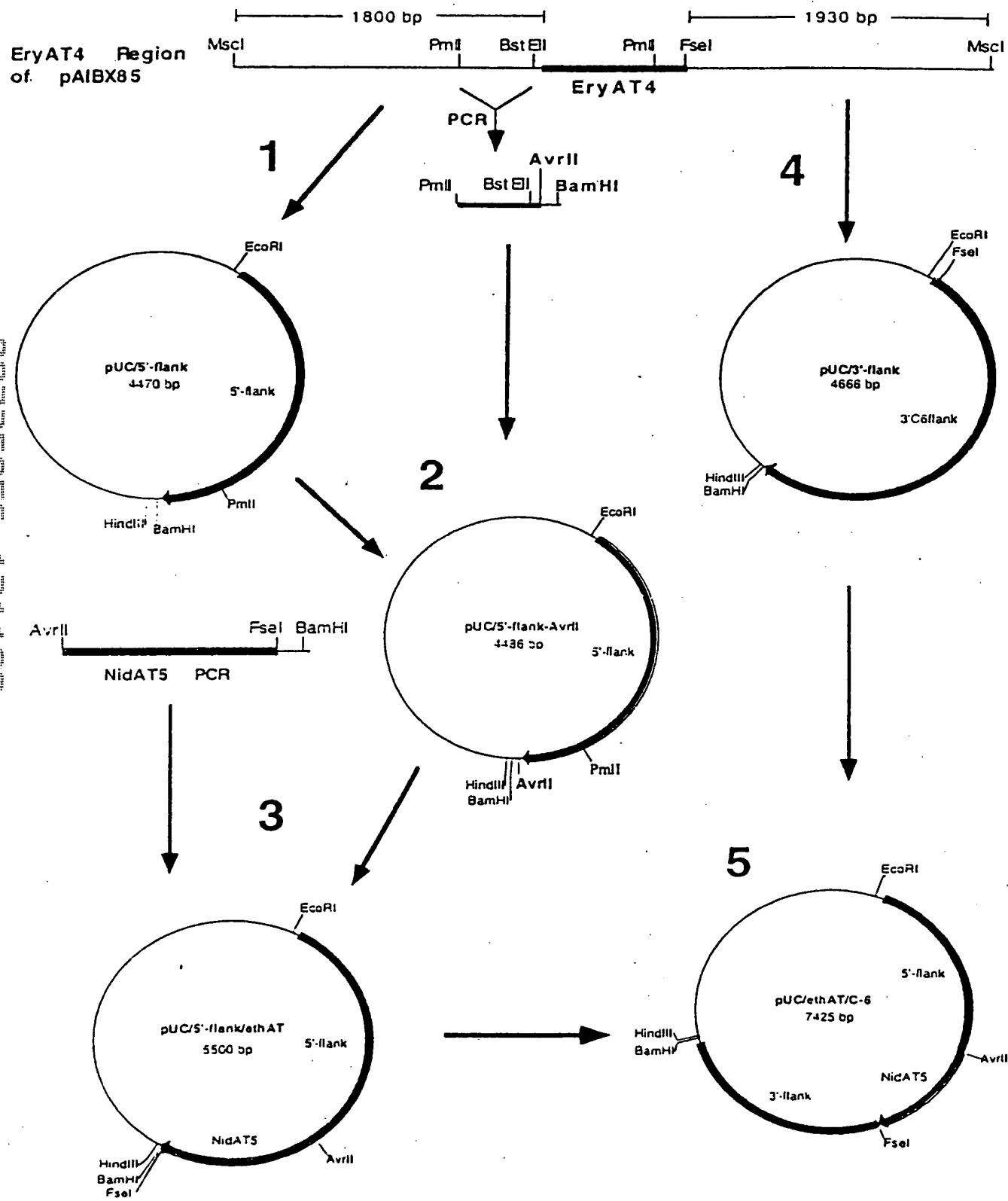


Figure 36

Protein Sequence	S	A	P	R	K	P
Original Sequence	TCCGCGCCCGCGCAAGCCG					
				↓	↓	↓
Altered Sequence	TCCGCGCC TAGGAAGCCG					
	<u>AvrII site</u>					

PCR Oligos for 5'-flank AvrII site

N-terminal oligo (Seq 10 ~ 21)	5'-GAGAGAGGAACCAACGCGCACGTGATCGTCGAAGAGGGACCCAGC	5'-flank sequence
		PmII site
C-terminal oligo (Seq 10 ~ 22)	5'-GAGAGAGGATCCGACCTAGGCACGGAGGTACCCGGCGACGGCG	5'-flank sequence
	BamHI site	AvrII site

PCR oligos for NidAT5 fragment

N-terminal oligo (Seq 10 ~ 23)	5'-GAGAGACCTAGGAAGCCGGTTCGTGTTCCCCGGCCAGGGCT	Beginning of NidAT5
	AvrII site	
C-terminal oligo (Seq 10 ~ 27)	5'-GAGAGAGGATCCGAGGCCGGCGTGCGCCGGACCGAAGACCGCCTC	3' end of NidAT5
	BamHI site	FseI site

Figure 37

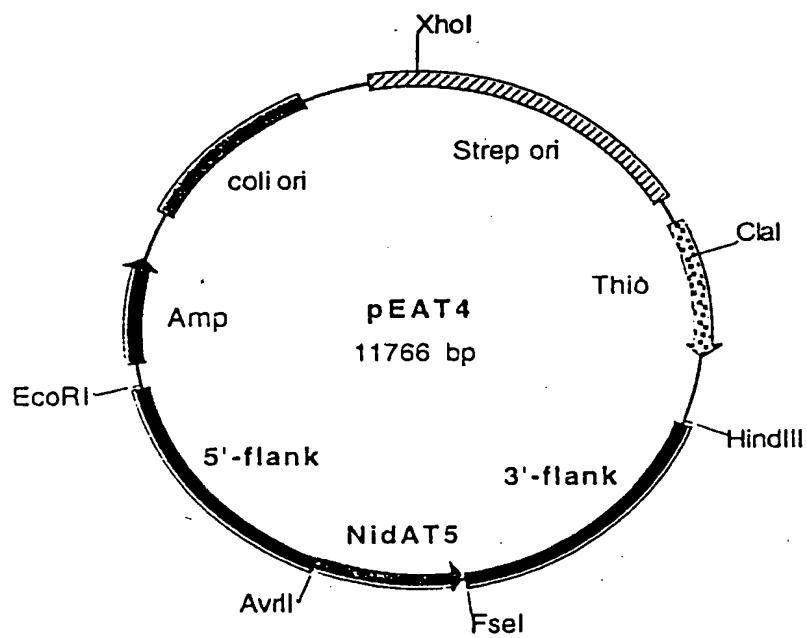


Figure 38

09735056 - 123100

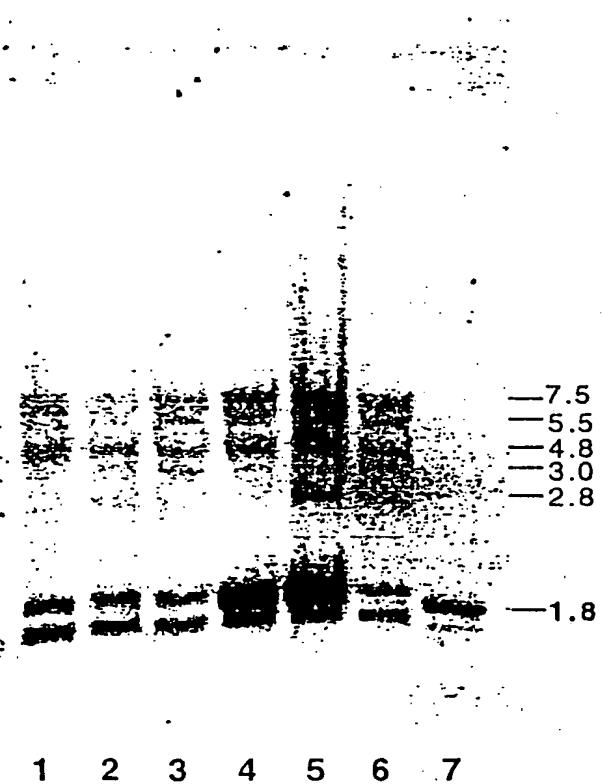


Figure 39

000 TTTT 9500002460

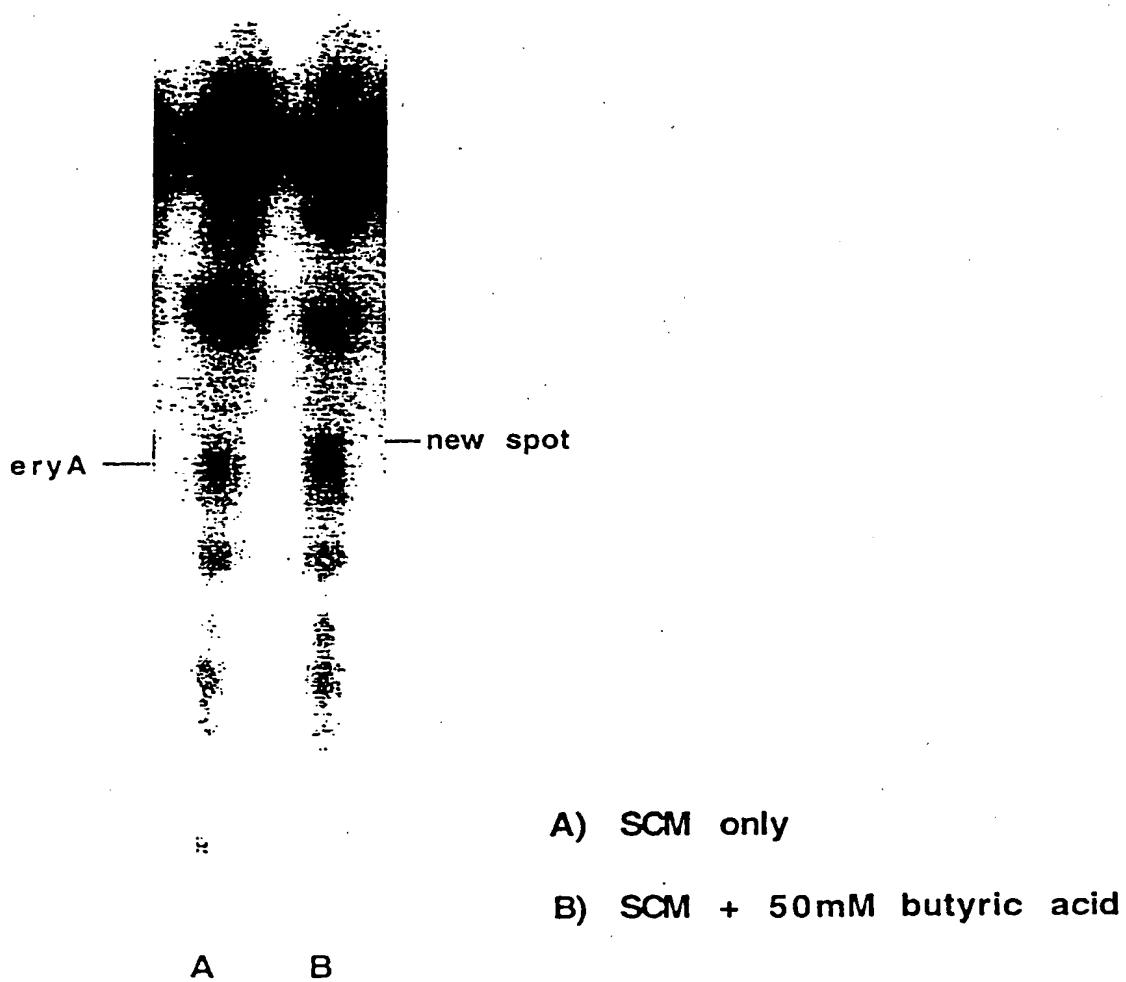
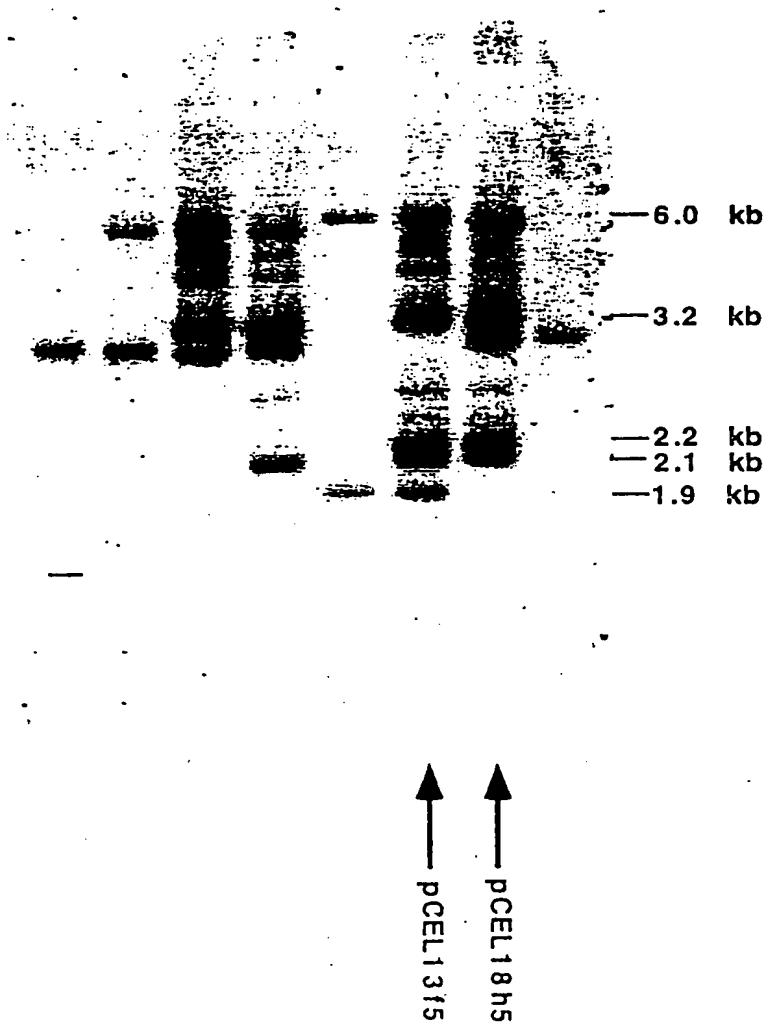


Figure 40



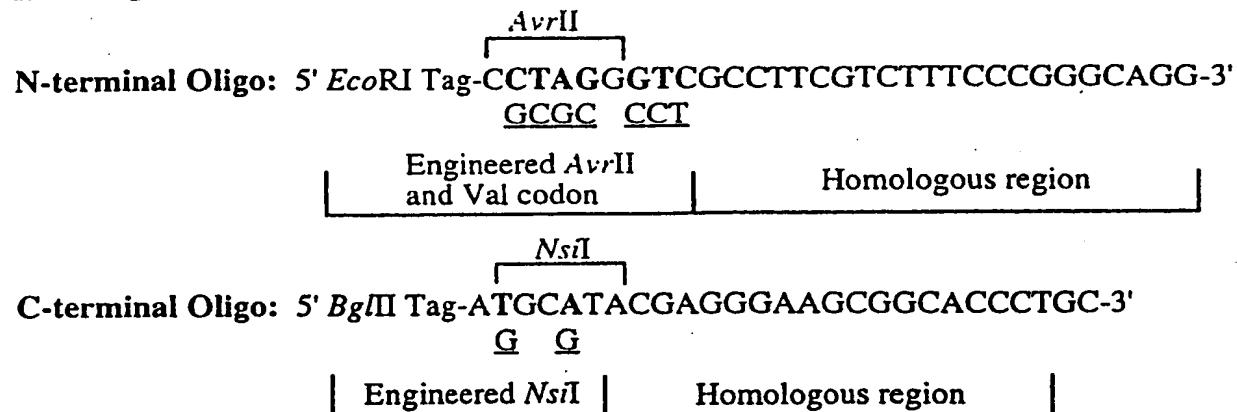
009735056 - 1201100

Figure 41

CGCGCGCCTGCCTTCGCTTTCCCGGGCAGGGCGCCAGTGGGCCGACTGGGAGCGCGG 60
 R A P A F V F P G Q G A Q W A G L G A R 20
 CTCCTCGCGGACTCCCCCGCTTCGCGCCAGGGCCGAGGCATGCGCGCGGGCGCTGGAG 120
 L L A D S P V F R A R A E A C A R A L E 40
 CCTCACCTCGACTGGTCGGCCTCGACGTGCTGGCCGGCAGGGCACCCCTCCCATC 180
 P H L D W S V L D V L A G A P G T P P I 60
 GACCGGGCCGACGTGGTGCAGCCGGTGCTGTTACACAGATGGTCTCGCTGGCCGCCCTC 240
 D R A D V V Q P V L F T T M V S L A A L 80
 TGGGAGGCCACGGGGTGCAGCCGGCAGGGTCACTCCCAGGGGAGGTGGCC 300
 W E A H G V R P A A V V G H S Q G E V A 100
 GCGGCCCTGCGTGGCCGGTGCCTGTCGCTGGACGACGCTGCCCTGGTATCGCCGGACGC 360
 A A C V A G A L S L D D A A L V I A G R 120
 AGCAGGCTGTGGGGGGGGCTGGCCGGAACGGCGGGATGCTCGCGGTATGGCTCCGGCC 420
 S R L W G R L A G N G G M L A V M A P A 140
 GAGCGGATCCGTGAGCTGCTGAACCATGGCGGAGCGGGATTTCGGTGGCGGGCGTCAAT 480
 E R I R E L L E P W R Q R I S V A A V N 160
 GGCCCCGCCCTCGGTACCGTCTCGGTGACCGCGCTCGCCTGGAGGAGTTCGGCGCCGG 540
 G P A S V T V S G D A L A L E E F G A R 180
 CTCTCCCGGAGGGGGTGCCTGCGCTGGCCGCTGCCGGCGTCGACTTCGCCGGCCACTCG 600
 L S A E G V L R W P L P G V D F A G H S 200
 CCGCAGGTGGAGGAGTCCCGCCTGAGCTCTGGACCTGCTCTCCGGCGTACGGCCGGCT 660
 P Q V E E F R A E L L D L L S G V R P A 220
 CCTTCGCGGATACTTCTTCTCCACCGTACGGCGGGTCCTTGCAGGCGGCGACCAGCTG 720
 P S R I P F F S T V T A G P C G G D Q L 240
 GACGGGGCGTACTGGTACCGCAACACGCGCGAACCCGTGGAGTCGACGCCACGGTCCGG 780
 D G A Y W Y R N T R E P V E F D A T V R 260
 GCGCTGCTGCGTGCAGGGCCATCACACGTTATCGAGGTGGTCCGATCCGCTGCTAAC 840
 A L L R A G H H T F I E V G P H P L L N 280
 GCCGCGATCGACGAGATCGCAGCGGACGAGGGGTAGCGGCCACGGCCCTGCATACGCTC 900
 A A I D E I A A D E G V A A T A L H T L 300
 !
 CAGCGGGGGCGCTGGCGGCCCTGACCGCGTGCACGGCGTGGCGCCGCTTCGCGCAC 960
 Q R G A G G L D R V R N A V G A A F A H 320
 GGTGTCCGGGTCGACTGGAACGCCCTGTTGAGGGCACCGGTGCAGGGTGCCTT 1020
 G V R V D W N A L F E G T G A R R V P L 340
 CCCTCGTACGCCCTTC 1035
 P S Y A F 345

Figure 42

PCR oligos:



PCR cloning:

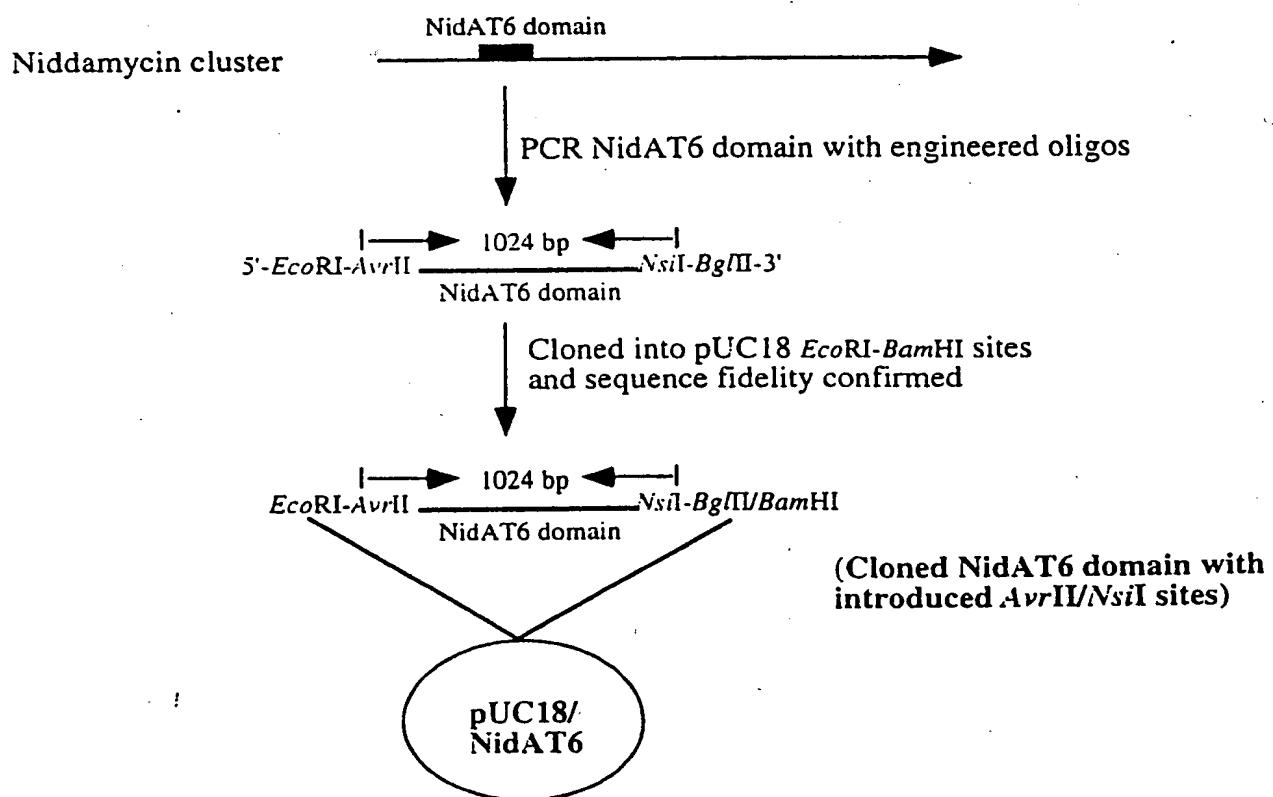


Figure 43

